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Railway Age

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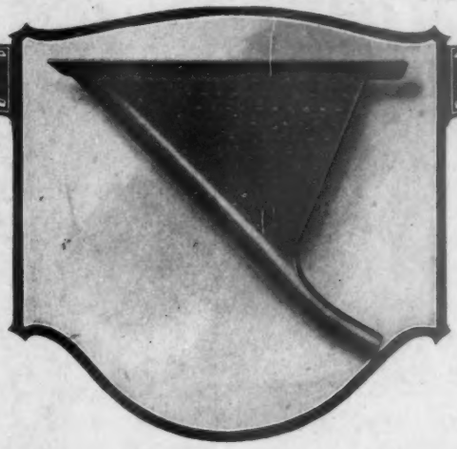

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# EDITORIAL

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The railroads least likely to become interested in the extension of locomotive runs are those adhering the closest to a policy of regularly assigned locomotives in both passenger and freight service. Not only have these railroads the most to lose in the matter of convenience in the handling of power but it may be difficult to demonstrate that a sufficient saving in fixed charges, due to the probable increase in utilization of the locomotives and in fuel and enginehouse expense, can be effected to offset the increase in maintenance expenditures likely to follow the pooling of the power. These roads generally can show a low cost of locomotive maintenance per unit of service, which would undoubtedly be materially increased as the immediate result of any change in operating practice requiring the general pooling of power. How far this immediate result could be overcome later is difficult to foretell. Another fact worthy of consideration in this connection is that some of the highest mileages per locomotive per year are being attained with regularly assigned locomotives.

**Assigned Locomotives or Longer Runs?**

The eastern and western railroads have chosen different methods of attacking the Interstate Commerce Commission's order requiring them to issue interchangeable scrip coupon books at a reduction of 20 per cent below the standard fares. The eastern roads have applied to a court for an injunction, while the western lines with which the Baltimore & Ohio has also joined, have apparently decided that it is more politic to give the commission an opportunity to admit that it made a mistake, by asking for a reargument. In some quarters the railroads have been criticized for attacking this order on the theory that by so doing they are adding to their unpopularity, because so many men who may be influential in making public opinion are interested in this opportunity to travel at a reduced rate. Undoubtedly the railroads could buy a certain amount of popularity with the $60,000,000 which it is estimated the order would cost them if they could apply it in any one of several directions, but they are hardly in a position to purchase only a limited degree of popularity at such a price. Certainly the petition of the American Farm Bureau Federation, joining in the roads' request for a reargument, indicates that there is also a numerous class of citizens with whom the idea of allowing another class to ride at a lower rate is decidedly unpopular.

**Roads Attack Coupon Ticket Order**

Freight car loading continues to break all previous records. For the week ended March 24 the revenue loading was 917,036 cars, making the fourth successive week in which it has exceeded the 900,000 mark, which has never before been reached before the first of May, and in some years not before June. For the first 12 weeks of 1923 the revenue freight loading has aggregated 10,391,698 cars, an increase of 1,312,369 as compared with the corresponding period of last year and an increase of 2,036,935 over 1921. There is, of course, no assurance that traffic will continue to increase at such a rate throughout the year and it is impossible to forecast the figures for the remainder of 1923 with any accuracy, but the only reasonable conclusion to be drawn from past experience is that the railroads must do their utmost to prepare themselves for the greatest traffic year in their history. Faced with this prospect the members of the American Railway Association and the Association of Railway Executives have been meeting in New York this week to review the situation confronting them and the steps already taken to meet it, and to plan for any further action that may appear necessary to meet the demands for transportation service in an adequate manner.

**Record-Breaking Freight Movement**

Oftentimes a signaled gauntlet across a single-track bridge will delay for many years the heavy expenditure required to provide a double-track structure. In many instances bridges are widened when perhaps it would not be necessary or advisable to do so, as the traffic could be handled for years to come by making a small expenditure for signal equipment to govern train movements across the bridge. By ending the double track at each side of the bridge or constructing a gauntlet across it, the use of remote control low voltage switch movements with proper signals will often furnish adequate track capacity and the protection needed. One road, confronted with this situation at a certain single track bridge, solved the problem by such a signal installation. Two switches, two derails and six signals were used and these were controlled and operated by the regular station force, one-half mile distant. The total investment for signal equipment amounted to approximately $8,000 and this expenditure saved $100,000 which would have been required to reconstruct the bridge for second track. Before budgets involving second track are submitted it would be well for the signal and engineering departments to co-operate in studies to determine whether signal installations will not in some cases obviate the necessity for heavy expenditures for the double tracking of bridges.

**Signaled Gauntlets vs. New Bridges**

The builders received orders in March for a total of 539 locomotives of which 505 were placed by railroad companies for domestic use. This number is the largest for a single month since September, 1922, when 619 locomotives were ordered. The orders for freight cars show a still more pronounced buying movement; the total for the month of 34,514 is larger than for any previous month in 1922 or 1923. Orders for passenger cars totaled 291 in March; this figure is more than double the number ordered in February but about one-half the number placed in January. The orders placed in March for locomotives were received from about 35 companies; they included 75 for the Baltimore & Ohio, 66 for the Southern Railway, 58 for the Great Northern, 50 for the Atlantic Coast Line, 50 for the Southern Pacific and the balance in smaller lots. The freight car orders include 8,000 for the

**Equipment Orders in March**

Louisville & Nashville and 4,000 for the Erie. The passenger cars were ordered by only five companies; 151 of these cars were for the Southern Pacific and 100 for the Pullman Company. The railroads are making a determined effort to secure rolling stock to meet future traffic requirements, but are handicapped because the builders have such a volume of business already booked that delivery of equipment placed now cannot be made until late this year; it is doubtful if production can be increased to make delivery of future orders in time for fall traffic. The tabulation of orders to date follows:

DOMESTIC CAR AND LOCOMOTIVE ORDERS

| | Locomotives | Freight Cars | Passenger Cars |
|---|---|---|---|
| January | 358 | 11,025 | 559 |
| February | 486 | 10,266 | 122 |
| March | 514 | 34,514 | 291 |
| Total three months | 1,358 | 55,805 | 972 |

**The Question of Machine Size**

In purchasing new shop machinery and equipment, one of the important problems confronting mechanical department men is the question of what size machine will best fill each need. Usually a compromise must be made. While some shop managements feel that they should have the largest machines which they will ever by any possibility need, the fact remains that these large machines are very high in first cost, expensive to maintain, large consumers of power, and occupy valuable floor space. There is no denying that shops should be equipped to handle the occasional large jobs, because the function of the repair shop is to keep equipment in condition for road service and this cannot be done if certain important parts break and machines are not available in the shop to make necessary repairs. Good judgment can be used, however, in specifying the size of shop machinery to the financial advantage of the railroads. To illustrate this point the case may be mentioned of a certain railroad shop in which a new 96 in. by 96 in. by 50 ft. planer was installed. The reason for having 96 in. under the cross rail was to take care of a special job that went through this shop about once or twice a year. If this special job consisted of planing cylinders and only two new ones were required a year, the cylinders should have been purchased already machined. It was obviously a costly mistake to install a 96 in. planer which would have to be used the rest of the time on frames or possibly smaller work, such as driving boxes, shoes and wedges, or else be idle. The late J. H. Manning, superintendent of motive power of the Delaware & Hudson, held the above view regarding cylinder castings, maintaining that if the true costs were known, including all items of overhead, the ordinary railroad shop could not profitably be equipped to machine locomotive cylinders.

**The Menace of Highway Traffic**

The collision between a passenger train and an automobile at a grade crossing at Columbus, Ohio, adds further emphasis to a new aspect of the grade crossing problem; namely, the menace to the safety of railway passengers. The gravity of the danger is evinced most forcibly in this case by the fact that the driver of the motor car was a woman and that the two other passengers were her children. In other words, the irresponsible, drunken joy-rider had nothing to do with this accident. Instead, the cause must be ascribed to a fundamental defect in motor car operation, namely, that the driving of an automobile calls for the exercise of skill that is not always possessed by the driver. The danger lies in the fact that it is difficult to approach many crossings in high gear at a speed sufficiently slow to permit of a stop short of the tracks without the possibility of killing the engine, and that too many cars are being driven by unskilful drivers who dislike to shift gears and will not do so if it can possibly be avoided. This accounts in a considerable measure for the unsafe speed at which many drivers approach railway tracks, particularly where the approach is on an upgrade. The fundamental condition thus imposed in the operation of the motor car, together with the greater average speed of all highway vehicles and the enormous increase in their number, are the primary causes of the increased hazard of the highway crossing which has developed during the last 20 years, during which there has been but relatively small increase in the average speed of railway trains. Therefore, it is the change in the nature of highway travel rather than in the characteristics of train operation which is primarily at fault. In view of this, it is clear that the public should bear a greater share of the responsibility for increased safety not only of highway travel, but of railway traffic as well, insofar as the grade crossing is concerned. This point may be hard to drive home in negotiations for the protection or elimination of grade crossings established for many years, but in cases of highway reconstruction or relocation calling for new crossings the railroads are now surely in a position to show that the greater hazard is something for which they are not primarily responsible and that the cost of increased protection should fall to a large proportion on the public.

# Taking a Chance

AS THE FEDERAL valuation work has progressed to the point where the Interstate Commerce Commission is holding hearings on the protests filed by the carriers, it has become evident that some roads do not appreciate the importance of pressing their claims in full at these hearings and are filing only general protests. This procedure is ill-advised for it is dangerous for the roads to permit the record before the commission to be closed without having incorporated therein in detail all of their supporting data to substantiate their claims. In preparing their protests, the roads should keep constantly in mind that the Valuation Act specifically provides that the value reported by the commission should be prima facie evidence of the value of the property in all proceedings under the Interstate Commerce Act and its amendments and also in all judicial proceedings brought to enjoin, set aside, annul or suspend, in whole or in part, any order of the Interstate Commerce Commission. Furthermore, any decision of the commission, in any proceeding brought to correct the tentative valuation, must be based on the record, and if the record does not contain the evidence to support the protest, an unfavorable decision must necessarily follow.

As this valuation may be used for so many different and very important purposes, and is to be the basis of the government's case whenever the value of the property is the issue, and as the commission is required under the Transportation Act to use it in fixing value, it follows that the carrier's failure to make vigorous efforts properly to support its contentions as to costs, value, etc., on the record, will seriously jeopardize its interests and it would be in an exceedingly weak position in any court in which application may be made for relief. Its failure will be tantamount to acquiescence. It is not a fair assumption that the commission will ignore the carrier's claims when supported by proper evidence and in any case the failure of the carrier to have its supporting evidence in the record practically confirms the valuation set up in the so-called tentative valuation.

The accounting reports of the commission omit many important items because they are not shown by the carrier in the investment account on its books, but which the carrier

can prove actually went into the property. Prior to the establishing by the commission of its uniform system of accounting, many expenditures properly chargeable to capital, were charged to other accounts, and vouchers and other written records of the carrier so indicate. The commission's accountants undertake to restate the accounts of the carrier and in numerous instances eliminate items which they contend are not properly chargeable to the investment account, but fail to transfer to and include in the investment account many important items unquestionably chargeable to investment. Under these circumstances, it is the duty of the road not only to direct the attention of the commission's representatives to these omissions, but also to prepare and introduce testimony at the hearing before the commission supporting in detail the items in question. Unless this is done, the accounting report of the commission will stand unimpeached on the records of the hearings.

The importance of this question is such as to cause every road to prepare its protests with the greatest care and to substantiate its claims in the greatest detail because it is a fair assumption that the failure of the carrier to present through competent witnesses its evidence in support of its claims would be practically an admission of the correctness of the commission's conclusions.

## Starting Right at the Bottom

NO GREAT amount of attention has been given by the railroads in general in the past to the selection and training of employees—at least as compared to some of the more progressive industries which have specialized in this direction. A few roads had some advanced practices in pre-war days in the selection and training of employees, at least in some departments. The most noteworthy examples have been in connection with the shop apprenticeship systems on some few roads. So far as the other departments were concerned, the division superintendent who kept in close touch with the school principals and superintendents in the towns on his division, and well back into the country on either side of the line, and who was thereby enabled to come in contact with the most promising students and encourage them to enter railroad service, was a glaring exception—so glaring that he was known far beyond the territory served by his road. It followed, also, that boys entering the service in this way were not neglected after they became employees, but were more or less closely coached and watched.

The war, post-war conditions and the shopmen's strike stopped, or else badly interfered with, the development of modern apprenticeship methods in railway shops; indeed, it came very near putting them completely out of business, if it has not actually done so on some roads. The time has come when this work must again be taken up in real earnest and extended to all departments of railroad service. Two things are certain. The railways will always be forced to operate with the minimum consistent freight and passenger rates and they will pay high wages—in other words they will be forced to utilize every possible effort to operate with the greatest economy. High wages, good working conditions and stable employment should enable the railroads to attract the pick of the young men to their service if they will so organize their recruiting methods as to locate these young men and get in touch with them.

One other factor, however, is vital, and that is that the boys be assured that they will be given the right sort of training after entering the service, to enable them to fit themselves for better positions and develop qualities of leadership if they possess them. Here is where the railroads have been weak; weak, because what is everybody's business is nobody's business. The problem was a comparatively simple one when the railroads were small. As they grew larger and larger and the principal officers found less and less time to interest themselves in personnel matters, no special provision was made to insure the proper selection and training of the new employees.

The time is now ripe for an advance all along the line in all departments. No first-class mechanic would think of working with dull or poor tools if his heart was in his job. The spread in efficiency of a worker in any field is so great between the partially trained, indifferent workman and the properly trained, efficient worker, that it would seem that no avenue offered a greater opportunity for increasing railway efficiency and operating economy than in the proper selection and training of all of the men who enter the service. This is just as important for the clerk, track worker, fireman and other employees as it is for the shop mechanic, who heretofore has received most of the comparatively little attention that has been given to this question.

## An Interesting Development in Annual Reports

A NUMBER of railroads have adopted the idea this year of issuing to their stockholders a preliminary statement of their 1922 operating results. Three such statements were received last week, issued respectively by the Pere Marquette, the Rock Island and the Kansas City Southern. The Rock Island's is a leaflet of only four pages. On page 1 is an explanation of the difficulties encountered during the year, the explanation being in the form of a brief but informative statement signed by President Gorman. Page 2 shows the consolidated income account and the profit and loss account, and page 3, the general balance sheet. The Pere Marquette's statement is quite similar. The Kansas City Southern's material is in the form of a pamphlet of 12 pages; it does not contain any remarks by Chairman Loree or President Edson but there are included the income account, the balance sheet and several pages of traffic and operating statistics.

These preliminary statements do not embody an entirely new idea. Statements somewhat similar in character, although possibly not as complete in form, have been issued in former years by such roads as the Great Northern, the Northern Pacific, the Lackawanna and others.

The preliminary statements have the advantage of being comparatively simple to prepare. As a result the facts they contain can be issued promptly and much sooner than the complete annual report. It is axiomatic that figures are more valuable the sooner they are available after the completion of the performance with which they deal. This axiom should apply to the year's earnings as well as to other statistics. We are particularly impressed by the brief and to-the-point statements prepared by Presidents Gorman and Alfred in their respective preliminary reports. A word of explanation of this kind will frequently serve the purpose of many columns of statistics. Some experts can glean volumes of information out of an income statement or balance sheet; this, however, is not true of all of us so that a word of explanation as to what lies behind the figures goes a long way.

There is a further interesting aspect concerning these brief preliminary statements that is also worthy of some attention. It is worth bearing in mind that the four-page leaflet issued by the Rock Island—although a mere preliminary report—is equivalent to the complete annual statement of operations and earnings issued by the greater number of industrial companies. If the stock or bondholders in such industrials find the brief reports they receive sufficient guidance for the investment of their funds, it may follow that the 50 or 60-page

annual reports issued by the railroads represent more than the railroad stock or bondholder would find sufficient. The Rock Island statement has a sentence to the effect that a copy of the complete annual report "in the usual form" will be mailed to any stockholder upon application. The number of requests for the complete report may give us a ready answer to this question.

## The Key to the Arch—the Foreman

SHERMAN ROGERS in an address before the Foremen's School at the Milwaukee Association of Commerce made this statement: "The efficiency of a man is either raised or lowered from 15 to 50 degrees by his mental attitude toward the job, by his mental attitude toward the company, and by his mental attitude toward the foreman he is working for." The foreman, since he comes into close personal contact with the men and must interpret the spirit and aims of the management to them, is thus the key to the whole situation. Is this recognized to the extent that it should be, particularly on the railroads where the size of the organization and the area over which it is spread make a wide gulf between the chief executive, as well as his immediate subordinates, and the men in the ranks?

The foreman, because of his strategic position, can either be a great asset in building up good will and efficiency, or if he is not properly trained and fitted for the position, can prove a great liability. In the last analysis, however, the management is responsible for his shortcomings. Foremen in the railroad field, in particular, have been loaded with heavy responsibilities and in many cases have received little recognition. They have been advanced from the ranks because they were master craftsmen and because their personalities promised to fit them for leadership. No painstaking or logical effort has been made in most cases to coach or train them in the fundamental principles underlying the successful directing men. The foremen too frequently—key men as they are—have been woefully neglected when it came to helping them to perfect themselves in the fundamental principles of dealing with their fellows and the further development of their qualities for leadership.

In the light of these observations it is noteworthy that several railroads have taken steps to improve conditions. In 1921, for instance, a foremen's club was organized on the Pennsylvania at Harrisburg. It proved so successful that similar clubs were formed this past winter at Wilmington, Trenton, Renovo and Altoona, the five clubs now having a membership of about 1,800. The one at Altoona may be taken as more or less typical. Ten sessions were held in the high school. The meetings started at 7:00 p. m., the first hour being devoted to a lecture. The lecturers included experts well qualified to discuss foremanship outside of pure craftsmanship, and also prominent officers of the railroad, who talked freely with the foremen about the policies of the company in dealing with the employees. After the lecture hour the men separated into 15 groups, each meeting with a leader in a separate class room, and discussed various aspects of the lecture. The classes were dismissed at 9 o'clock. The group leaders and their assistants remained to plan the discussion for the next meeting.

The group leaders, in addition to leading the discussions, were charged with the responsibility of seeing that the men in their groups became acquainted with each other and that each member of the group was encouraged to take part in the discussions. The classes included foremen and subordinate officers from the divisions leading into Altoona and from different departments; the acquaintanceship feature was, therefore, not the least in importance. Each member of the club paid $5 dues. Since the company paid one-half the expense of the lectures from the outside, and no charge was made for the use of the high school, a very considerable surplus was left at the end of the season. The members are now voting on whether to refund the surplus or close the season with a banquet.

What do the foremen actually think of this scheme? Remember that the meetings this winter were conducted under great difficulties because of weather conditions, the heavy business and the equipment situation. Next year it is planned to start the course earlier, possibly during the first part of October, to avoid the severe weather.

Such foremen as were interviewed are already looking forward to the resumption of club activities next fall. They feel that they have been given a larger and wider vision of their responsibilities and opportunities. They have become acquainted with other foremen on their own or other divisions and outside of their own departments. They have had an opportunity of exchanging viewpoints and experiences and are still doing so informally whenever opportunity offers, particularly with relation to the principles which were developed by the lecturers. The group discussions, as one foreman expressed it, gave them an opportunity "to blow off steam and get things off their chests." Some of the men were a bit timid at first and hesitated to express themselves. As the season advanced and they became better acquainted, they felt more at ease and took part more readily; one of these men is looking forward to more active participation next year and is enthusiastic over the course which has just closed.

It is safe to say that the general foremen and other higher officers are receiving more intelligent co-operation from their assistants—one of them so testified. There can be no question but what the railroad and the men have been many times repaid for such expense and effort as were involved in carrying on the course. Other roads are trying other methods of encouraging and helping their foremen and subordinate officers. The problem may be approached in many ways, depending on local conditions, etc. The importance and necessity of doing something in this direction, however, cannot be overestimated.

## The Neglected Train-Order Signal

THE LETTER OF A. M. Burt, in this issue, on the use of the train-order signal, seems to suggest that a five-indication signal is needed, so that the same signal can be used both as a block signal and a train-order signal. Or, at least, the need of giving both of these classes of indications at the same place, and the difficulty of doing this without too much complication, apparently can be taken as the reason why the committee of the American Railway Association has taken no action in the matter.

A three-position train order signal is not objectionable in itself; but there are so many situations where a three-position manual block signal is also required that the real or supposed difficulty of using both of these so that they will not conflict or cause confusion may well be the reason why the A. R. A. committee has decided not to take action in the matter. Assuming that the Northern Pacific has numerous stations where the single signal, opposite the station office, is made to serve both as a block signal and a train order signal, there is need of a fourth and a fifth indication. Without this addition, the intermediate position (or color) is required to fulfil two functions; one to indicate proceed expecting to find the block section ahead occupied, and one to indicate that the train must pick up a train order without

stopping. Both indications may need to be given at the same time. With semaphore arms this could be easily arranged; but with a color light-signal, there would be an added complication, as there are only three satisfactory colors.

If a single arm or light (in the intermediate position) is used to tell the engineman that he is to receive a train order *or* is to enter an occupied block, or both, it is necessary to give him something (a caution card) when there are no orders so that he shall have positive evidence that there are none; but the delivery of the card may necessitate slackening speed in cases when, if the permissive indication were given by the semaphore signal, not complicated by any other indication, the reduction of speed could be avoided.

If the manual block signal is a separate signal, located a considerable distance in the rear, or in advance, it is feasible to use the intermediate indication on one signal to mean permissive block and on the other to mean 19 order; but this is in some degree objectionable because of the ease with which an engineman can forget the distinction between the two signals, or pretend that he has been confused by them.

Any proposal to use a more complicated signal may fail to find favor not only because of the objection just mentioned, and because the American Railway Association has neglected to act in the matter, but also because of the necessity of agreeing on a new design and of taking the time and money necessary to put the idea into actual use. In this case, why not use a hand signal? With competent and properly trained operators there is no difficulty in giving adequate notice to enginemen with a flag or a lantern. To deliver an order without stopping the train, the operator should leave his office in ample season to be on the platform when the engineman comes within the distance in which he must reduce his speed; and a hand signal of any kind is readily understood. If the fixed signal is some distance in the rear of the station, the operator must signal "proceed" by hand in season to obviate the necessity of stopping the train at the signal; and in case of dense fog, it may be necessary for the speed of the train to be reduced to a very low rate; but that must be looked upon as a penalty for not having a more complete system of fixed signals.

The New York Central has a rule for delivering train orders at interlocking plants, which ought to be readily adaptable at any kind of station or at any train-order office. It reads:

> 1024. Where Train-order signals are not provided at an interlocking plant, a yellow flag by day and a yellow light by night displayed to an approaching train, in addition to the Stop indication of the fixed signal, indicates there are train orders and will be acknowledged by two short sounds of the whistle. If after acknowledging signal by two short sounds of the whistle the Stop-signal is not changed to Proceed, it will indicate there are "31" orders and conductor must promptly report at signal station. If Stop-signal is changed to Proceed it will indicate that "19" orders are to be delivered and train may advance to signal station but must not leave until orders have been received.

As to whether it is undesirable to make rules on subjects concerning which the American Railway Association has made no declaration there may be two opinions. Numerous roads have done a good deal in that direction, and all roads, probably, have added at least a few supplementary paragraphs to standard rules. Mr. Burt should let the world know who it is that threatens to call him an outlaw. Many good men would like to cross swords with the slanderer.

The New York Central rule, we understand, gives satisfactory service. The condition provided for in that rule is not exactly like that on the Northern Pacific, but, evidently, the fundamental need is the same in each case; that is, to give two indications at the same time.

Where the block signal is at some distance in the rear of the office, the last sentence of the New York Central rule could be modified to provide that after the operator has caused the train to be sufficiently slackened, he can put the block signal at proceed (or proceed into a permissive block), and then go out to the platform. Having taken up a suitable position there, he can either stop the train by a hand-motion stop-signal or allow it to proceed slowly by showing the yellow hand signal. When the speed of a train has been brought under control, the engineman is bound to heed any hand-motion signal or flag or lantern signal that may be given to him.

The Erie, on one or more divisions, has a rule requiring signalmen at manual block stations to display a red flag or lantern "outside the block station window" to give notice that orders are waiting to be delivered. In automatic territory, in some cases, a short semaphore arm (with a light) fixed on the post below the regular arm is used to notify trains that train orders are awaiting them.

With all due respect to the American Railway Association, it must be said that its extreme conservatism may easily be the cause of the postponement of desirable changes. The importance of conservatism is often unduly magnified. Indeed, the very existence of this conservatism is a reason why experimentation should go on independently. No railroad officer should for this reason repress his own individuality, as long as he keeps within the limits of safety. Experimental changes and improvements are prima facie desirable; the important thing to bear in mind is to make these changes in public, as it were; to keep one's neighbors informed about them. This will tend toward more rapid progress.

# New Books

*The Consolidation of Railroads in the United States. Report of National Industrial Conference Board.* 107 *pages. Reviewed by Wm. J. Cunningham, Professor of Transportation, Harvard University.*

In its Research Report Number 56, November, 1922, the National Industrial Conference Board has made a valuable contribution to the literature on consolidation of railroads in the United States. The report gives an historical background from the viewpoint of consolidation, outlines the principal plans of consolidation which have been projected, discusses the broad economic factors affecting the success of these plans, and estimates the possible effects. The viewpoint of the report is objective insofar as it discusses the controversial features of the alternative plans, but on the fundamental principles involved the board commits itself to certain definite, although guarded, opinions. The volume should assist those who are seeking information as a basis for a better understanding of the problems connected with consolidation and the relation of the principle of consolidation to the welfare of railroads, industry, labor, and the general public.

The historical background contains a brief summary of early consolidations, referring specifically to the evolution of a few of the larger systems. It divides railroad combinations of the United States into four periods: (1) 1850-1870, in which the combinations developed systems of less than 1,000 miles and in which the objectives were standardization of equipment and track and reduction of trans-shipment in the movement of through traffic; (2) 1870-1890, when the consolidated systems reached a length of 5,000 miles and were based mainly on financial expediency; (3) 1890-1900, and (4) 1900-1910; when large systems of 10,000 miles or more were brought together for strategic reasons by a few powerful leaders. The combination tendency reached its peak in the period between 1897 and 1910 when Harriman built up a system which absolutely controlled 25,000 miles of line, powerfully influenced 30,000 additional miles, and indirectly affected 16,000 miles. As the large consolidations of that period brought together lines which had been in competition, the question of public interest was raised, and the tendency was checked by the courts in the deci-

sions which (in 1904) upset the plan of the Northern Securities Company and (in 1912 and 1914) dissolved the mergers of the Harriman Lines in the West and the New Haven system in New England. The period of system building on a large scale was practically closed by these decisions under the Sherman Act.

Following the historical section the report deals with the situation as it existed when in 1919 the whole railroad question came before Congress, and it summarizes the outstanding features of the Transportation Act of 1920. The new rule of rate-making is analyzed and the reasons for the reversal of public policy toward consolidation, from one of antagonism to one of encouragement, are made clear. Now the law not only does not prohibit large-scale combinations of common carriers, when in accord with certain principles, but affirmatively directs the Interstate Commerce Commission to prepare and recommend a comprehensive plan under which nearly 200 Class I roads may be combined into a few systems.

Then follows a well-balanced summary of the commission's tentative plan of 1921 in which 19 systems are proposed. Each is considered separately and critically reviewed. Throughout the summary, which forms the greater part of the report, the commission's proposals are compared and contrasted with those advocated by John E. Oldham, a Boston investment banker, who has worked out a plan which differs materially from the tentative plan of the commission. The latter is based in the main on the recommendations of Professor Ripley of Harvard University, who was engaged by the commission to formulate its tentative program.

The concluding chapters of the report deal with the tests which may be applied to schemes of consolidations and with the probable effects of consolidation (under the commission's and the Oldham plan) upon finance, operation, labor, and public service, including rates. Doubt is expressed as to whether sufficient inducement has been offered to bring about consolidations voluntarily although there are strong indications that a considerable percentage of railroads will accept the principle. Consolidation will remove the troublesome factor (in rate-making) of the weak road, but the combination of the weak with the strong will so dilute the strength of the latter as to make it imperative that the commission shall pay careful heed to the rate structure.

From an analysis of the several statistical tables of prewar operating results the conclusion is reached that in normal times most of the proposed systems should be able to approximate the contemplated fair return upon value, although three of the proposed systems may be unable to earn more than a fraction of the fair return if consolidated in the manner proposed by the commission. Consolidation of the weak with the strong will require a revision of the existing financial structure of the weak so that the demands upon net railway operating income by fixed charges, as distinguished from the needs for dividends and surplus, shall be reduced below 60 per cent. Unless the level of rates is high enough to allow the strong roads to earn a reasonable return, they will not voluntarily absorb the weak roads. Thus, if a reasonable level of rates is not maintained, the proposed consolidation will not be completely carried out. If but a few of the consolidations are carried out, and some weak roads remain outside the fold, the disparity between the weak and the strong will be accentuated. In order to secure the full benefits of consolidation, therefore, the plan must be carried out as a whole.

Consolidation on a comprehensive scale should have a favorable effect on railroad finance by bringing about a better relationship of fixed charges to net income, if at the same time a constructive policy in regard to rates is carried out by the commission. It should also improve the character of railroad service by the extension of the best operating practices of standard roads to the weak roads when combined with the strong. Certain economies might be realized, as in unification of terminal and in the reduction in accounting or other general expenses, but while important, these economies, in the face of other adverse factors, may never attain such proportions as to permit any substantial reductions in rates. It is possible also that consolidations, by improving finances, would enable the new systems to plan more systematically for maintenance and betterment work and by spreading the expenditures more evenly throughout the year tend to stabilize employment in railroad service.

Yet even with these advantages, the report sounds the warning that consolidation cannot be considered a panacea for all railroad ills. Many experienced railroad officials fear, indeed, that it would have seriously detrimental effects. Consolidation cannot be successful unless entered into wholeheartedly by all of the roads, and unless the commission conscientiously and scrupulously carries out the mandate of the law that the rate scale shall be high enough to permit the railroads as a whole and by groups to earn a fair rate of return. If the governmental machinery provided for the establishment of such rates fails to function promptly and efficiently, the mere fact that the railroads are consolidated will not prevent their further starvation.

The board has done a real service in making this study available. Although necessarily condensed, nearly all of the salient facts for the intelligent consideration of principles are mentioned. Emphasis may not in all cases be properly placed, yet on the whole the treatment is well balanced. While the fundamental difference between the commission's proposals and the Oldham plan is stated to be one of operating and traffic affinities from the commission's viewpoint, and financial strength from Oldham's viewpoint, the Board's report does not bring out as clearly as might be the controlling nature of the financial factor. The board, in its objective treatment of controversial features, is fair to each side, yet it may be assumed that the readers of the report would have welcomed a more subjective treatment, as for example, in connection with New England, where there are sharp differences of opinion as to the relative merits of the proposed all-New England system and of the alternative plan under which the individual roads would be parcelled out to the Trunk Lines.

One important factor is but hinted at. The problem of administering larger units is of primary importance. One of the real difficulties under consolidation will be that of managerial control. The 19 systems plan of the commission contemplates that the average system will have mileage of over 12,000, property value of nearly $1,000,000,000, and annual operating revenues of over $218,000,000. Combinations of such magnitude will call for men of exceptional powers in organization and leadership. While there are undoubtedly many railroad executives who are fairly well equipped for such heavy tasks, the problem is to discover, develop, and support the right men.

*Mechanical Handling and Storing of Material. By George Fredcrick Zimmer, London, Eng. Bound in cloth, 804 pages, 1143 illustrations, 8 in. by 10½ in. Published by the D. Van Nostrand Company, New York.*

This is the third edition of a work by an English author first published in 1905 and subsequently revised and brought up to date. The subject matter covered in the last edition is chiefly British practice in the field of conveying machinery, although numerous other practices are discussed. A total of 44 chapters cover a wide variety of subjects ranging from the continuous handling of material by means of screw, bucket, belt, gravity, pneumatic and hydraulic means, the intermittent handling of material, utilizing ropeways, cableways, monorails, etc.; loading and unloading appliances for use in connection with ships and railway cars; conveying systems for coal and ash plants; stocking coal and other material, and the automatic weighing of material.

# Letters to the Editor

[*The* RAILWAY AGE *welcomes letters from its readers and especially those containing constructive suggestions for improvements in the railway field. Short letters—about* 250 *words—are particularly appreciated. The editors do not hold themselves responsible for facts or opinions expressed.*]

## A Call for Action

ST. PAUL, Minn.

TO THE EDITOR:

I have been interested in the recent discussion in the *Railway Age* of the use of Form 19 train orders, although the Northern Pacific has made general use of the Form 19 orders for so long a time that with us it has ceased to be a controversial subject. In this connection, it occurs to me that it would be desirable to stir up the question of the train-order signal, which is an essential feature in handling Form 19.

There are three things that one may want to say to an approaching train:

First. Stop for train-orders.
Second. Get train-orders without stopping.
Third. There are no train-orders for your train.

A three-position signal is certainly not an unusual device, and yet, it has never been possible to induce the American Railway Association to frame a rule permitting the use of such a signal in connection with train orders, and those of us who do use this signal must frame our own rules—which is undesirable—and be, to some extent, classed as outlaws.

We consider it of the utmost importance to give the engineman of an approaching train definite and unmistakable information as to what is expected of him at a train-order office.

A. M. BURT.

## Taking the Public Into Confidence

ON THE LINE.

TO THE EDITOR:

I have watched with considerable interest the pendulum of public opinion concerning the railways swing from one extreme to the other—never stopping halfway—and knowing as I do that 90 per cent of the adverse criticism is due to misunderstandings, I have often marveled at the apparent lack of effort on the part of the transportation representatives to correct the wrong impressions by coming out in the open and defending the concern which they represent.

The average citizen knows less about the railroad which serves him than any other concern in the community. Through force of habit he exaggerates his grievances and never gives a thought to the hundreds of shipments that are handled with entire satisfaction. Let one car go wrong and the wrath of the shipper is turned loose without restraint and the entire railroad machine is condemned without trial, both publicly and privately. As a general proposition, the railroad representative who happens to be the point of contact is not able to pour oil on the troubled waters simply because the complainant does not understand the railroad's troubles. Lack of publicity, failure to take its customers—the public—into its confidence is in my judgment responsible for this condition.

To improve the present situation I would suggest a more liberal policy on the part of the railroad executives with their local officers. Let these officers understand it is their business to mix with the public. If necessary be a little more liberal with the supervisory force in the way of help so they can become a part of the community in which they live and take an active part in public affairs. I would go just one step farther by employing a high-class man capable of meeting with not only the customers, but the rank and file of the employees. One who had sufficient personality to command the respect of the men and the customers and conduct a campaign of education with the idea of placing the railroads on the plane where they belong—that of a gigantic business organization without which this country could never have been developed and without which it could not now exist, whose aims and ideals are just as high, if not higher, than any other organization, and with an honest desire to give honest service and a square deal to all.

In my judgment the railroad that adopts this policy will get greater returns on the investment than on any investment yet made.

DIVISION SUPERINTENDENT.

## Making Friends for the Railroad

MAHWAH, N. J.

TO THE EDITOR:

It is greatly to be desired that, in paying bonuses to employees who stood by their employers and the public during the strike last summer, the railroads of this country may become more fully convinced of the pleasure and profit of giving bonuses; and thus put themselves in the way of doing the same thing again; of making such payments for other reasons. Giving a man a little more than is legally due to him is a very definite and usually a successful way of cementing his friendship. Anything of this kind in the business of a great railroad company is, of course, a complicated problem, and is likely to require much preliminary consultation and preparation; and you will be tempted to class me as a mere doctrinaire.

This thought of bonuses comes to mind on reading your editorial note of February 10 on making friends for the railroad, in which you exhort railroad officers to get their men enthusiastically behind them in dealing with the public. You desire them to please the public with at least as great efficiency as would be found in a country grocery.

As I was reading your editorial, I came across a newspaper paragraph which bracketed under one head these two items; *a*—Southern Pacific pays to employees $500,000 in bonuses (on account of services at the time of the strike); *b*—the Endicott-Johnson Corporation, Binghamton, N. Y., pays $2,956,809 in bonuses to 12,000 employees in its factories. A similar notable bit of news was printed, about the same time, concerning the General Electric Company, the sum mentioned there being $1,100,000 for a half year. Other large manufacturing concerns have lately been thus declaring dividends for the benefit of their employees; and, as your readers know, other railroads than the Southern Pacific have accorded special recognition to employees who, at great inconvenience and in many cases some sacrifice, helped the officers to subdue that unreasonable strike.

These events should be carefully noted in the diary of every railroad manager. Why does a manufacturing company feel able to be more liberal in this matter than any railroad company? This question ought to be answered, with fulness and simplicity; and the public should be induced to examine the facts.

It is not by any means certain that no railroad can ever imitate the manufacturers in this respect, or that nothing can be learned from them.

Your editorial refers to the widespread poison of disloyalty

now permeating the veins of railroad employees. Every word of your admonitions on this point is needed; and yet I think you would have done well to note that those employees on whom the railroad depends the most for showing friendliness to the public—that is, the station agents, ticket sellers and passenger conductors—are not so bad as some others. A good percentage of these classes will be found to be actuated by honest and intelligent loyalty, and can be depended on to learn, quite readily, how to improve their efficiency as diplomats. This can be done if only a vigorous teaching policy is carried out. They do not read, much less endorse, the radical stuff that you find in the brotherhood magazines. Is it not time to slack up a little on random exhortations to employees and apply more energy to actual teaching?

PROFESSOR.

# The New England Divisions Case

MORSEMERE, N. J.

TO THE EDITOR:

By the decision handed down February 19, the Supreme Court upheld the order of the Interstate Commerce Commission revising the freight divisions of the New England carriers. It will be remembered that this case has been twice before the commission; in the second decision the commission reversed its first position. In the concurring and dissenting opinions the several commissioners presented their respective views with vigor and in no uncertain terms. In his understanding of the law and of the conditions which gave rise to it, Commissioner Potter in his dissenting opinion in the first instance and his concurring opinion when the decision was reversed, boldly outlined his conception of the intent of the law to establish a national transportation system where the paramount desideratum was service to the public. Justice Brandeis who delivered the opinion of the Court in the present decision also seems to base his arguments on this same fundamental conception. Thus he says, referring to the enactment of the Transportation Act of 1920, "Theretofore, the effort of Congress had been directed mainly to the prevention of abuses; particularly, those arising from excessive or discriminatory rates. The 1920 act sought to ensure also adequate transportation service. That such was its purpose Congress did not leave to inference. The new purpose was expressed in unequivocal language. And to attain it, new rights, new obligations, new machinery were created. . . To preserve for the nation substantially the whole transportation system was deemed important."

The consequences of the present decision are most far reaching. It is doubtful if the average railroad man appreciates what has happened. An entirely new conception of a railroad's property in its own revenue is set up. Thus the court's opinion reads: "If, by a single order the commission had raised joint rates throughout the eastern group 40 per cent, and, in the same order, had declared that 90 per cent of the whole increase in the joint rates should go to the New England lines (in addition to that they would receive under existing divisions), clearly nothing would have been taken from the Trunk Line and Central Freight Association carriers, in so ordering." In other words the revenue of the individual carrier under a rate, quite as much as the rate itself, is at the disposition of the Interstate Commerce Commission. The reasoning is that the rates were based on the needs of the individual carriers taken together. To meet these needs it was first necessary to find this total and then to dispose of it to the individual roads involved. "That these needs were met by two orders instead of one is not of legal significance. The order here in question may properly be deemed a supplement to or modification of that entered in Ex Parte 74" (which was the original order by the commission of a general rate increase to produce the total amount desired).

Thus to be specific, it is within the competence of the commission, having ordered a general rate increase to order the Delaware, Lackawanna & Western, out of its proceeds from the increase to make over to the Erie a designated amount. This is in effect so far a consolidation of the two properties without the legal formalities involved in their merger. The title of a particular carrier to its share in joint revenue, it is asserted, does not rest on an agreement between the two parties or upon their respective mileage performance but upon the ruling of the commission based upon what it "finds to be just, reasonable and equitable." The opinion proceeds: "It may be just to give the prosperous carrier a smaller proportion of the increased rate than of the original rate. The two or more carriers performing the service are no longer the only parties at interest, each asserting its rights on the basis of its individual position of advantage or disadvantage. But a larger interest, namely that of the consumer, intervenes and composes the disparities of position of the individual carriers to the needs of a common service."

As the opinion reads, "Whether the rate is reasonable may depend largely upon the disposition which is to be made of the revenues derived therefrom." As pointed out in your columns by the writer some weeks prior to the decision (New England Divisions and the Transportation Act, *Railway Age* of January 13 and 20, 1923), the rate is a composite rate and from this arise the equities in the proceeds of that rate, outside and beyond the particular carrier that performs the actual service. The conclusion reached by the court was inevitable.

J. SHIRLEY EATON.

# Better Freight Service

CHICAGO.

TO THE EDITOR:

I have read the article by "B. G. Shipper" in your January 27 issue, and the reply of Agent Mathers of the D. L. & W. in the February 3 issue, concerning the announcement that our division would broadcast prevention talks by radio. Six of these talks have been delivered and we should like to send "B. G. Shipper" and others who may apply, reproductions in order that they may understand the nature of these talks, which were not directed to the shipper as such, but to all citizens, over two million of whom are railroad men and men working in related industries.

The trend of these talks was to show what the railroad and express men were doing to safeguard freight in transit, and incidentally, to encourage the sympathetic interest of the patron, shipper and receiver of freight and express, as well as the citizen who does not come in direct contact with the complicated machinery through which he is supplied with most of the things he uses.

The present claim prevention, or loss and damage prevention movement among railroad and express men is in reality a better service movement. Loss and damage prevention means good service and is an interesting method of directing the thoughts of the railroad rank and file in this direction. Shippers do much the same thing within their own organizations, the idea being to do more and better business at less cost and friction. Surely the railroad men are interested in the shippers' efforts to serve the customers; and surely the railroad men help them serve the customer; and just as surely the shippers are interested in both activities where they can be joined to the benefit of the customer. With sympathetic co-operation, they can be joined in numerous instances without harm to either party and with great profit to our citizenship in general.

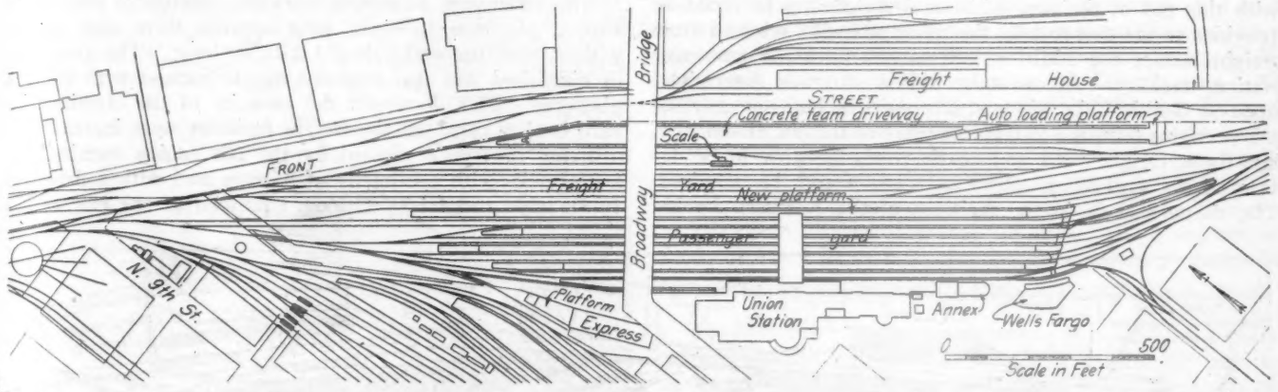
LEWIS PILCHER,
Secretary, Freight Claim Division, American Railway Association.

# Portland Terminal Company Increases Facilities

## Enlargement of Passenger Station Leads to Development of New Plan at Guilds Lake

THE PROBLEM of providing increased facilities in a restricted area has been imposed on the Northern Pacific Terminal Company of Oregon, which owns and operates the Union passenger station at Portland, and has led to a number of important improvements and the development of plans contemplating the eventual reconstruction of a considerable part of the present plant. The initial improvement, now practically completed, includes the addition of two more station tracks at the passenger terminal and the construction of a new terminal at Guilds Lake, two miles north of the old facilities, where the first units of a new freight classification yard and an engine terminal have been provided. The site chosen at that point is of sufficient size to provide for a large freight classification and repair yard, a complete passenger coach cleaning and storage yard and an extensive expansion of the engine terminal.

The Northern Pacific Terminal Company is a corporation organized in 1882 and controlled by the Northern Pacific, the Union Pacific (O. W. R. & N. Co.) and the Southern Pacific, through the ownership of 40 per cent, 40 per cent and 20 per cent, respectively, of the stock. The property of the terminal company includes a considerable trackage on the waterfront in Portland, together with passenger and freight facilities in the triangular area roughly bounded by Hoyt street, Ninth street and the Williamette river.




**The Union Passenger Station and Adjoining Facilities as Revised and Enlarged**

### Facilities Were Inadequate

The passenger station, located at the foot of Sixth street, is of the through type which, until the present improvements were completed, provided seven station tracks served by three platforms with umbrella sheds and connected to the station by a transverse shed or concourse, crossing the tracks at grade at about midlength. There is a coach yard for cleaning and repairs and an engine terminal along Ninth street. The freight facilities include a freight classification yard and an engine terminal (since removed) located between the passenger station and Front street, a freight station for the union Pacific east of Front street and freight stations for the Southern Pacific and Northern Pacific between Broadway and Ninth street, fronting on Hoyt street.

With these facilities the terminal company has provided complete passenger terminal facilities for the trains of the three owning roads for which it does all of the switching and performs all terminal service for coaches and locomotives from the time that the trains enter the station until they leave it. The station is also used by the passenger trains of the Spokane, Portland & Seattle and the Great Northern, but these two roads do their own switching of passenger trains and provide their own engine terminal and coach facilities. The terminal company also does all switching necessary for car movement to and from freight houses and all of the industries and docks on its lines, for the owning roads.

The train service in the passenger station includes a total of 47 regular trains in and 47 regular trains out, divided among the roads as shown in the table below. The passenger business has grown steadily and following the sudden increase which took place during the period of government control when the Spokane, Portland & Seattle abandoned its own station at Eleventh and Hoyt street to become one of the users of the Union station, there was a marked need of additional trackage in the station. The obstacle in the way of expansion in the passenger station was imposed primarily by the freight yard and engine terminal occupying the space immediately to the east of the station. A further complication was introduced by the city in its plans for removing, as far as possible, all longitudinal tracks in Front street, since it was desired to improve this street as a traffic thoroughfare to serve the waterfront business houses, docks, etc. Another factor which had to be considered was the need of the ultimate replacement of two of the existing freighthouses by new terminals designed along modern lines that would require the vacation of certain streets within the terminal area. Negotiations with the city to this end culminated in a contract ordinance granting vacation of most of the streets north of Kearney street and east of Twelfth street to the terminal company, and providing for the widening of Fourteenth and Hoyt streets as well as the clearing of tracks from Front street

SCHEDULE OF TRAINS USING THE UNION PASSENGER STATION AT PORTLAND, ORE.

| | In | Out |
|---|---|---|
| Northern Pacific | 2 | 2 |
| Southern Pacific | 9 | 9 |
| Southern Pacific (electric) (1 to 3 car trains) | 19 | 19 |
| Union Pacific | 8 | 8 |
| Great Northern | 2 | 2 |
| Spokane, Portland & Seattle | 7 | 7 |
| | 47 | 47 |

and the opening up and improvement of Ninth street with a viaduct to carry traffic over the tracks to Front street.

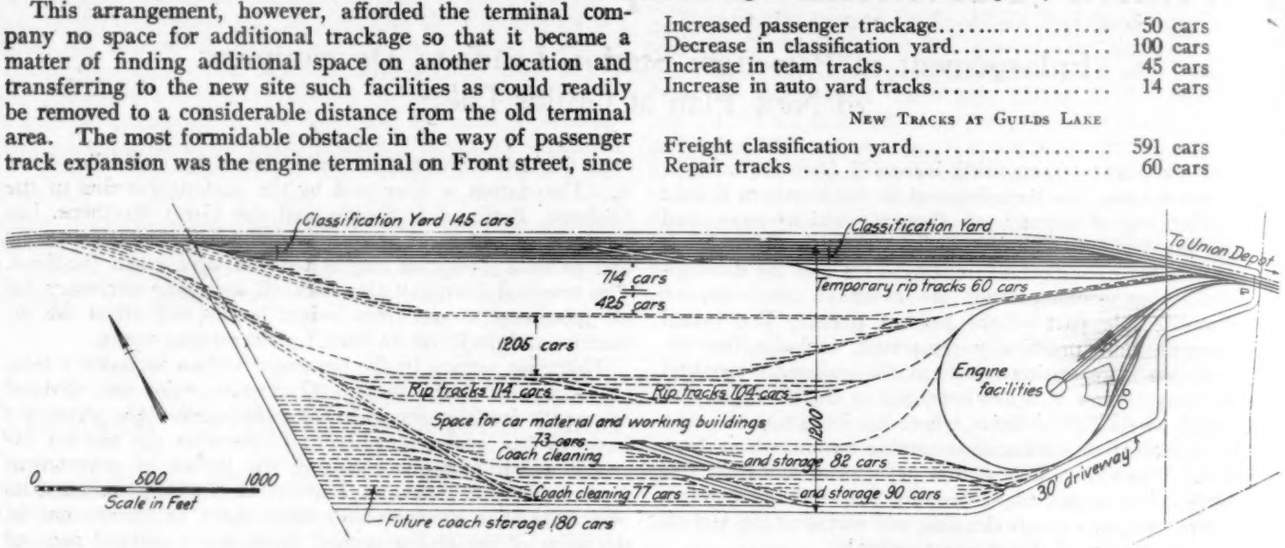
This arrangement, however, afforded the terminal company no space for additional trackage so that it became a matter of finding additional space on another location and transferring to the new site such facilities as could readily be removed to a considerable distance from the old terminal area. The most formidable obstacle in the way of passenger track expansion was the engine terminal on Front street, since

The changes recently completed have accomplished the following alterations in track capacity:

| | |
|---|---|
| Increased passenger trackage | 50 cars |
| Decrease in classification yard | 100 cars |
| Increase in team tracks | 45 cars |
| Increase in auto yard tracks | 14 cars |

New Tracks at Guilds Lake

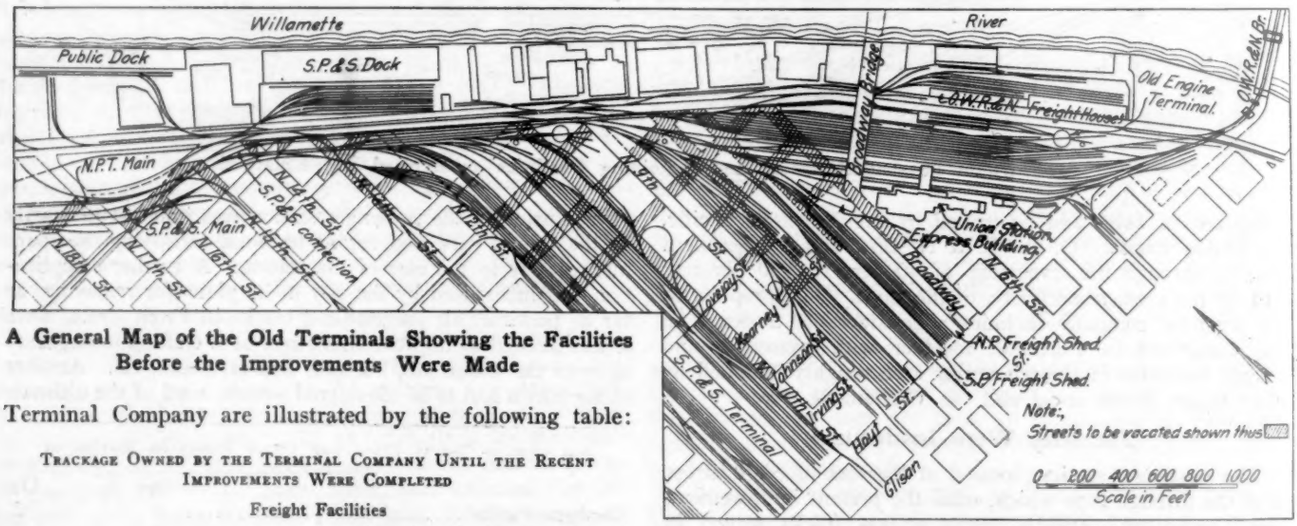
| | |
|---|---|
| Freight classification yard | 591 cars |
| Repair tracks | 60 cars |




**The Guilds Lake Yard Is Designed to Provide for Material Expansion**

with this out of the way additional freight tracks could be provided to the east to take the place of tracks released from freight service for additional development of the passenger station trackage. Accordingly, a new site was determined upon at Guilds Lake where space could be had not only for a new engine terminal to take the place of the one abandoned, but for a freight yard and coach yard, the area to be developed as rapidly as new facilities would be required. The changes made in the facilities of the Northern Pacific

The additional passenger trackage consists of two tracks with a platform 1,700 ft. long between them and covered with a steel umbrella shed 1,270 ft. long. The concourse or high shed was also extended east to connect with the new platform. This decreased the capacity of the classification yard by 100 cars, but the freight facilities were increased by utilizing the space vacated by the old engine terminal for team tracks with a capacity of 45 cars and with a driveway 50 ft. wide and 1,100 ft. long, equipped at one end with a




**A General Map of the Old Terminals Showing the Facilities Before the Improvements Were Made**

Terminal Company are illustrated by the following table:

Trackage Owned by the Terminal Company Until the Recent Improvements Were Completed

Freight Facilities

| | Standing Capacity of Tracks |
|---|---|
| Industry spurs | 391 cars |
| Trackage at municipal docks | 60 cars |
| Classification yard | 363 cars |
| Repair tracks | 66 cars |
| Freighthouse tracks | 306 cars |
| Team tracks | 53 cars |
| Total freight tracks | 1239 cars |
| Daily economical working capacity | 525 cars |

Passenger Facilities

| | |
|---|---|
| Station tracks | 147 cars |
| Coach yard | 158 cars |
| Total standing capacity | 305 cars |
| Working capacity | 187 cars |

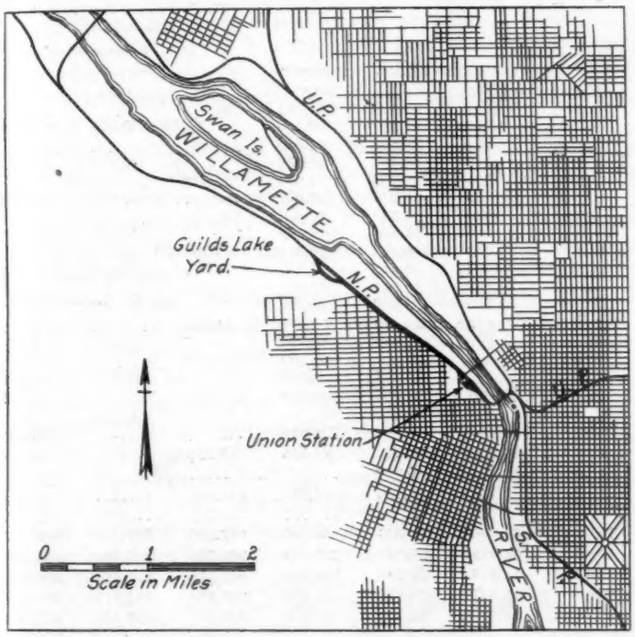
20-ton steel derrick, and an automobile unloading platform 20 ft. by 425 ft. long with tracks to accommodate 14 cars.

## Providing a Double-Track Line Between the Terminals

The development of a new terminal at Guilds Lake introduced the problem of trackage between the new and old facilities. Guilds Lake yard is located on the Northern Pacific's main line to Seattle which connects with the main track of the Northern Pacific Terminal Company at Seventeenth street. The Northern Pacific line is double tracked as far south as Twenty-first street, and that of the Northern Pacific Terminal Company as far north as Fourteenth street.

To afford access to the Guilds Lake terminal the Terminal Company leased the Northern Pacific's main line and second track from the yards to Seventeenth street for 99 years and entered into an agreement with the Spokane, Portland & Seattle for the use of its adjoining parallel line as a means of providing second track between Fourteenth street and Twenty-first street, thus affording a continuous double-track line between the old and new terminals.

The Great Northern by agreement participated to the extent of 25 per cent in the expenditures of the Guilds Lake yard and enjoys its benefits with the other roads interested in the Terminal Company. The ultimate plan for the terminal at Guilds Lake provides for a freight classification yard, storage yards and repair tracks and a coach cleaning and storage yard having a total capacity of 3,655 cars. In addition, space has also been set aside for a large engine terminal. The initial development includes a freight classification yard comprising seven tracks, 4,000 ft. long, with ladder tracks on each end and a double ladder at mid-length, affording a total standing capacity of 591 cars. There are also two temporary repair tracks with a total standing




**The City of Portland, Ore., in Its Relation to the Union Station and the Guilds Lake Yard**

capacity of 60 cars. This yard is to be used for the classification of all interchange and other business of the four participating companies.

The initial stage in the enginehouse development embraces a roundhouse with eight stalls, a boiler house, a 65,000-gal. capacity steel water tank on a 30-ft. tower, a 27,500-gal. steel oil tank, a reinforced concrete cinder pit served by a depressed track and an 85-ft. steel turntable with electric tractor, together with the necessary approach tracks and including a loop track surrounding the engine terminal site which has been provided for the turning of passenger trains, although, until the coach cleaning operations are transferred to the new site, this track will be used only to a limited extent.

## Enginehouse Walls Finished in Stucco

The roundhouse is constructed with tile walls and brick trim, the tile being covered with a rough stucco coat. The posts and roof frame are of wood, the roof being of laminated construction with 2-in. plank, laid edgewise the depth varying from 2 in. to 8 in., according to the length of span. The roof covering is Johns-Manville built-up asbestos roofing. The floors are of vitrified brick laid on a sand cushion, except in the portion used as a machine shop where a one-inch mastic coat is placed on top of the bricks. The smoke exhaust is provided by Johns-Manville Transit jacks. The building is heated by hot air, forced draft, conducted through concrete ducts along the front of the house with branch ducts leading to each stall and outlets in the pits, the draft being provided by Sturtevant fans with exhaust steam radiator units to heat the air. Illumination is provided by large areas of steel sash windows, supplemented by an effective flood lighting system, comprising the use of two Western Electric 100-watt type C lamps for every stall located on the outer wall of the house in such a position as to obtain the maximum illumination on the sides of locomotives standing in the house. Ample provision is also made for facility sockets for extension cords. Service pipes for boiler washout, blowoff and compressed air are carried through the house overhead with drops directly over the engines or on posts between the stalls.

One stall of the roundhouse is partitioned from the rest by a fire wall and used as a machine shop. All of the machines are electrically operated with direct-connected motors for all except the smallest ones, which are operated from line shafting. The machine shop stall is equipped with a drop pit and hydraulic jacks.

One interesting feature of the engine terminal is the fuel oil delivery system. The oil is received in a sump on a track provided for the tank cars and from which it is pumped to the elevated oil tank by means of an automatic pump, which stops and starts with the operation of the oil spout. All piping between the intakes in the sump and between the sump and the elevated tank are six inches in diameter and contain a ¾-in. low pressure steam pipe to insure fluidity of the oil. A cinder pit is provided, but owing to the fact that only one or two road engines are equipped for coal it will be little used at present. The small number of coal-burning engines entirely obviates the necessity for a coaling station at this point.

## 40,000 Cu. Yd. of Filling in a Day

The site of the new terminal derives its name from a slough adjacent to the Willamette river which was cut off from the main stream by the Northern Pacific's enbankment. It has a soft bottom 25 to 27 ft. below grade and, therefore, required a large amount of filling to make the site available for terminal use. The volume of filling computed for the development of the first stage of the project was 1,200,000 cu. yd., but as the filling was done by hydraulic methods with material taken from the Willamette river, the exceedingly flat slope obtained and the subsidence of the soft bottom increased the volume of material to such an extent that the material actually placed was 3,000,000 cu. yd. The work was done by arrangement with the Port of Portland, using the Port's hydraulic dredge, one of the largest in the country. This dredge has a 3,000-hp. turbine engine with a 30-in. pipe line and frequently pumped in over 40,000 cu. yd. of filling in a day, the material being clear sand. One peculiar circumstance attending the development of the Guilds Lake area was the presence of a small peninsula of high ground extending across the area, as shown on the map. After considerable study it was found possible to place all of the buildings in the present development of the engine terminal on this peninsula, thereby making it possible to use natural foundations for these structures and greatly reducing the cost.

The turntable was the single exception in the present construction and it was necessary to support this on pile foundations with piles obtaining a 40-ft. penetration. Future extensions to the roundhouse will also be on the filled ground and probably require the use of pile foundations.

The cost of the present project is close to a million dollars; the cost of the completed unit yard development at Guilds

Lake, exclusive of right-of-way, is approximately $400,000, including the filling, which cost approximately eight cents per cubic yard on the cross section yardage. It is anticipated that the work will be continued, including extensive filling operations during the present season.

The design and construction of the new terminal development have been conducted under the direction of A. E. McKennett, engineer, Northern Pacific Terminal Company of Oregon, Portland, Ore.

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NINETY-SEVEN PER CENT of the 12,712 passenger trains operated by the Illinois Central during January, and 95.9 per cent of those operated during February, were on time. The Vicksburg division, with 504 passenger trains monthly, made a record of 100 per cent during both of these months. The Memphis division, with 1,064 passenger trains, made 99 per cent in January, and 99.6 per cent in February.

# Freight Car Loading

WASHINGTON, D. C.

FREIGHT CAR LOADING continues to break all records for this season of the year. After a slight falling off for two weeks the total for the week of March 24 showed an increase of over 12,000 over the previous week, to 917,036 cars. This was an increase of 79,036 cars as compared with the corresponding week of last year and an increase of 230,469 cars over 1921. There was an increase as compared with the corresponding weeks of both years in the loading of all classes of commodities except coal and l. c. l. merchandise, which were less than for last year.

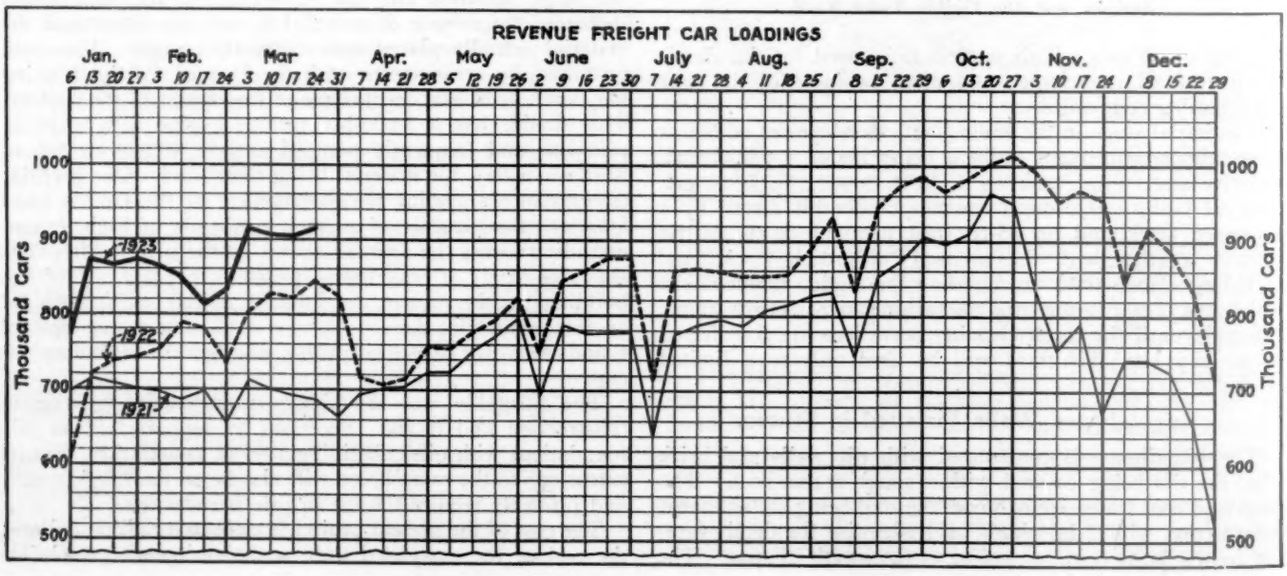
The freight car shortage showed a further decrease during the week ended March 22 to 71,443, including 33,690 box cars and 29,915 coal cars. There were also surpluses amounting to 12,741 cars.

## REVENUE FREIGHT LOADED

SUMMARY—ALL DISTRICTS, COMPARISON OF TOTALS THIS YEAR, LAST YEAR, TWO YEARS AGO. WEEK ENDED SATURDAY, MARCH 24, 1923

| Districts | Year | Grain and grain products | Live stock | Coal | Coke | Forest products | Ore | Mdse. L.C.L. | Miscellaneous | Total revenue freight loaded | Corresponding period 1922 | Corresponding period 1921 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Eastern | 1923 | 9,011 | 2,983 | 55,546 | 4,286 | 6,606 | 2,937 | 63,175 | 91,891 | 236,435 | ..... | ..... |
| | 1922 | 6,937 | 2,577 | 57,621 | 2,097 | 4,768 | 1,069 | 67,167 | 68,746 | ..... | 210,982 | 165,610 |
| Allegheny | 1923 | 2,692 | 2,712 | 53,798 | 6,966 | 3,259 | 5,283 | 48,191 | 81,590 | 204,491 | ..... | ..... |
| | 1922 | 2,399 | 2,503 | 60,137 | 4,171 | 2,359 | 1,129 | 50,195 | 58,033 | ..... | 180,926 | 137,069 |
| Pocahontas | 1923 | 238 | 70 | 21,559 | 525 | 1,588 | 229 | 6,125 | 4,291 | 34,625 | ..... | ..... |
| | 1922 | 243 | 71 | 25,071 | 253 | 1,252 | 23 | 6,076 | 4,027 | ..... | 37,016 | 23,543 |
| Southern | 1923 | 4,185 | 2,193 | 23,446 | 1,192 | 21,970 | 1,360 | 39,487 | 50,906 | 144,739 | ..... | ..... |
| | 1922 | 2,987 | 2,030 | 24,407 | 508 | 17,803 | 655 | 38,606 | 46,152 | ..... | 133,148 | 114,583 |
| Northwestern | 1923 | 10,261 | 8,428 | 7,085 | 1,348 | 22,351 | 1,073 | 26,943 | 29,914 | 107,403 | ..... | ..... |
| | 1922 | 9,742 | 6,949 | 7,256 | 1,266 | 15,281 | 594 | 28,413 | 27,541 | ..... | 97,042 | 90,194 |
| Central Western | 1923 | 9,202 | 11,967 | 18,869 | 419 | 9,525 | 3,181 | 34,225 | 47,012 | 134,400 | ..... | ..... |
| | 1922 | 11,148 | 9,232 | 23,236 | 222 | 5,865 | 1,126 | 34,240 | 38,415 | ..... | 123,484 | 99,267 |
| Southwestern | 1923 | 3,794 | 1,996 | 4,759 | 103 | 8,085 | 637 | 14,493 | 21,076 | 54,943 | ..... | ..... |
| | 1922 | 4,208 | 2,026 | 5,491 | 175 | 7,054 | 697 | 14,762 | 20,230 | ..... | 54,643 | 56,301 |
| Total West. districts | 1923 | 23,257 | 22,391 | 30,713 | 1,870 | 39,961 | 4,891 | 75,661 | 98,002 | 296,746 | ..... | ..... |
| | 1922 | 25,098 | 18,207 | 35,983 | 1,663 | 28,200 | 2,417 | 77,415 | 86,186 | ..... | 275,169 | 245,762 |
| Total, all roads | 1923 | 39,383 | 30,349 | 185,062 | 14,839 | 73,384 | 14,700 | 232,639 | 326,680 | 917,036 | ..... | ..... |
| | 1922 | 37,664 | 25,388 | 203,210 | 8,692 | 54,382 | 5,293 | 239,459 | 263,144 | ..... | 837,241 | ..... |
| | 1921 | 33,329 | 24,706 | 121,379 | 5,258 | 48,743 | 6,455 | 213,009 | 233,688 | ..... | ..... | 686,567 |
| Increase compared | 1922 | 1,719 | 4,961 | ..... | 6,147 | 19,002 | 9,407 | ..... | 63,536 | 79,795 | ..... | ..... |
| Decrease compared | 1922 | ..... | ..... | 18,157 | ..... | ..... | ..... | 6,820 | ..... | ..... | ..... | ..... |
| Increase compared | 1921 | 6,054 | 5,643 | 63,683 | 9,581 | 24,641 | 8,245 | 19,630 | 92,992 | 230,469 | ..... | ..... |
| Decrease compared | 1921 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| March 24 | 1923 | 39,383 | 30,349 | 185,062 | 14,839 | 73,384 | 14,700 | 232,639 | 326,680 | 917,036 | 837,241 | 686,567 |
| March 17 | 1923 | 39,288 | 30,633 | 183,530 | 15,322 | 74,152 | 12,786 | 229,161 | 319,414 | 904,286 | 815,082 | 691,396 |
| March 10 | 1923 | 41,532 | 31,039 | 186,327 | 15,240 | 75,548 | 11,818 | 229,146 | 314,569 | 905,219 | 820,886 | 700,440 |
| March 3 | 1923 | 44,967 | 32,810 | 193,551 | 16,138 | 76,131 | 10,547 | 226,818 | 316,934 | 917,896 | 793,115 | 711,367 |
| February 24 | 1923 | 40,364 | 32,460 | 178,457 | 14,913 | 69,891 | 10,420 | 201,390 | 282,328 | 830,223 | 728,925 | 659,642 |

Compiled by the Car Service Division, American Railway Association.



# The Pressing Question of Public Relationships

## Typical Experiences in a Traffic Office—A Live Question for the Traffic Office Today

By a Former Railroader*

I WAS QUITE A BOY when I first went to work for what was then considered a pretty large railroad system. My people were country folks and I was ambitious to try my wings further afield. The thing began to take shape when one day my father came back from a G. A. R. reunion with a glowing story of how a neighbor's son had gone to the city and was getting a hundred dollars a month on a railroad job. Well, we all knew, of course, that there wasn't that much money in the world. And we all knew that our friend liked to brag. But that didn't keep me from lighting the flames of ambition, and eventually we raked up money enough for me to learn shorthand and to follow in his wake. It was an old man who sold typewriters who finally landed a job for me. He told me that the A. & B. people were looking for a man, and I went to see them. There was no job, they said. My typewriter friend told me to go back again. Again there was no vacancy.

"They want a man, all right," he said when I reported failure again. "You go down there and tell them that you'll furnish your own typewriting machine."

"But I haven't any," I said.

"You go on, I'll give you one and you can pay me a little on it each month."

And so I broke into the transportation field.

It might be supposed that as time passed on, if I was not efficient I would be dropped. But I worked in that office for twelve years, and I do not recall that anyone was dropped for inefficiency in that time. When a man dropped out, they moved everybody below him up one notch and hired a new office boy or stenographer, so that no new blood ever got into the organization; certainly none that had much of an outside point of view. We had all grown up right there, and all that we knew about business or the business world was what we happened to learn within our own four walls. There was no incentive to push yourself.

I didn't start, you may be sure, for anything like that princely stipend of a hundred dollars a month. In fact, it took nine long years to reach that point; and there were men who had worked there twenty years who didn't get much more than that. But I had at least got a railroader's toe-hold, and through that maze of clerical mediocrity I began to climb.

The job I had coralled was in the passenger department. There were about ten of us, and we handled the traffic routine for 1,200 miles of road. The nucleus of the office centered about the rate desks, where three elderly men pored over inter-line reports and wrote to connecting lines long letters about rate divisions. They were always squabbling, in a senile way, with the auditing department about how to divide rates. I remember one day the auditor claimed that we had accepted less than our correct revenue on a second-class ticket, Williamsport, Pa., to Bakersfield, Cal., out of which we had received two dollars and thirty cents. The ticket had been routed via Washington, D. C.; Knoxville, Chattanooga, New Orleans and El Paso. That does seem like a round-about way, to a layman. But those second-class tickets were good in tourist sleeping cars, and a through car of that kind left Washington for the Coast over this route every week.

"And you fellows accepted $2.30 for a haul of more than 300 miles?" said the auditor derisively.

"Doin' pretty good at that," one of our old men replied.

"Yes," said the auditor grudgingly. "Doin' pretty good as things go down here. But you should-a had $2.50." And he began to make figures for them, and to mark off the amount triumphantly with finger on palm.

### An Economist Born Too Soon

The rate desks had a young fellow with them who seemed to me to be pretty smart, and he gave them an idea about the railroad rates that struck me pretty hard. It seemed to be new to the old men. And, as for myself, I declare I hadn't thought of it or heard it mentioned all the time I had been with the road.

"Can the A. & B. make any money carrying passengers at two-thirds of a cent a mile?" he asked.

At first I thought they weren't going to pay any attention to him, but finally one of the old gentlemen spoke up patronizingly, "That isn't the point, Jimmy," he said. "What we got to do is to make sure of our share. We can't control the rate."

Jimmy didn't say any more about it just then. But we talked about it a good deal in after days. Of course, the roads have long since learned that it makes a big difference what rate a ticket is sold at; what contract is entered into to sell a given service for a given price. But at the time I am speaking of, it seemed to be an unheard of thing. You see, the cub had something of that outside point of view I am talking about.

"I can't understand," he said to me as we walked home that night, "how these fellows never raise their eyes high enough to ask if the road pays for itself. My father says a road has no excuse for existence unless it does that. He says the A. & B. isn't paying its own way."

### A Nineteenth Century Passenger Agent

Well, all this was in the late 80's, and in a few years the World's Fair at Chicago came on. There was much more pushing for business than there is now, and a tremendous lot of rate-cutting by traffic departments whose enthusiasm ran away with them. But, at that, there was some really constructive work, and people were persuaded to get the travel habit. I am not sure that much actual passenger business has been created by the American railways since 1893. The great weakness of it was that much of this activity was in the name of expediency, and some serious matters of principle were being overlooked. I remember one day during the Klondike gold rush a veteran of the old regime came into the general offices attired in a Prince Albert coat and a high hat. He was something of a privileged character, and at the door he met the vice-president of the road.

"Why, hello here," said the vice-president. "Why all this dressing up?"

The veteran drew a long face. "Funeral," he said. "Goin' to observe the last sad rites for one o' my best friends."

The vice-president looked properly serious. "Too bad," he said, "Who's dead?"

"Oh, nobody yet," said the cheerful mourner. "But the G. P. A.'s going to fall dead when I tell him the rate I made for this Klondike crowd up at Richmond yesterday."

So the railroads were not properly organized. There were several reasons for this. One of them was, as I have sug-

*The author of the entertaining and instructive article in the *Railway Age* of December 2, entitled "Do American Railways Lack the Selling Sense?"

gested, the basic weakness of a traffic department built up wholly of men whose business training was confined to what they had learned within their own four walls. Another was that the roads had been passing through the pioneering stage, and, in the face of a stupendously growing business, hadn't settled down. Another difficulty was that business ideals hadn't yet been established. The railroad tradition was still that of the old stage driver, known to all his patrons by his first name. . . . . And then came consolidation, and bankruptcy and wreck, and a natural reaction on the part of the farmers, local small capitalists and others who had looked upon the railroad as their own. It was natural that enmity and suspicion should set in against the stranger who had taken over the property.

Into all this, legislation came, and through it all the roads didn't know where to turn for relief. There were newspapers to be placated, shippers to be soothed, local communities to be appeased. A mania of antagonism had seized upon the people. Commercial clubs, Booster clubs and Chambers of Commerce were passing resolutions and stirring up politicians, and sending telegrams to Washington, in an effort to show the railroads where they belonged. Demagogues were howling, and many an honest statesman was walking the floor torn between the duty he owed the public and the troubles his purblind railroad friends were leading him into.

Now, the old gentlemen who had been spending hours in an argument about the ticket from Williamsport to Bakersfield neither saw nor heard these rumors and rumblings of a railroad storm. Their chief, who had come up through just such narrow-minded training as they, couldn't understand why it should be. I think we were all wondering what it was all about, and I think we thought of it as something in which we had but a secondary interest—all but our president.

At last the local paper came out one morning with an eight-column head announcing that a receiver had been appointed for the A. & B., the pride of the city and the meal ticket upon which I had been depending for bread. So there were changes of all kinds—a new traffic manager, a new freight man, and later on a new passenger department head. And, with the receivership, came a new point of view about business behavior. Loose practices fell away and discipline was closer under the intangible shadow of the power of the courts.

The receiver was a man of energy. The new men had been raised in the same old school, but they knew human nature, and they each had a wide circle of friends. The new passenger man could get business whenever he went after it. He knew all the tricks of the trade, and he had that selling knack that most railroad men lack. Soon, through his efforts, and with the receiver's help, we were running vestibuled trains. They were a great novelty then, and without doubt created business where business did not before exist. Soon after that we had two dining cars. Ticket agents began to root for us. They began to say we were the only real tourist route in the territory we served. We began to advertise, and very good advertising it was. It was paid for in transportation, and if the publisher couldn't use it all, he would sometimes take it down to the ticket scalper and turn it into cash. Sometimes he was mildly punished—sometimes he was not found out. But this advertising transportation, bad as it was in many ways, played a heavy part in getting business, where business was hard to get.

There were a lot of bad habits such as this, where expediency took the place of principle. It took government action to break up most of them. One of the worst practices was the paying of ticket commissions—$1.50 or $2 or some such sum to the agent of a connecting line who sold a ticket over our road. That was expediency with a rush. For the agent should have been giving the patron the benefit of his unbiased advice, whereas he would sometimes route the poor traveler round Robin Hood's barn in order to win a dollar or two for himself. Freight rebates were worse yet, if only because they involved larger sums. It is strange how some of the ablest railroad executives were unable to see the injury these things did. They fought legislation that would have protected them, as if they couldn't be happy if the money were allowed to remain in their lean treasuries.

### Some Legislation With a Kick

But, twenty-four hours after the Elkins law went into effect, they drew a long breath, looked carefully about and found that all the roads were going to obey the law, and saw that the money that they had heretofore been throwing to the birds would hereafter stay in their hands. Their passengers henceforth would all be cash passengers and their freight revenue was to remain untouched. It is rather strange that of all these early evils, that of the ticket brokers was the only one that found the roads morally strong enough to strangle it with their own hands.

Now, the reason for this moral failure has never been removed—it is a lack of properly trained personnel. Ninety per cent of all railroad efficiency, someone has said, depends upon the human element. The human element in the days I am talking about had never known anything but rebates and passes, ticket scalping and cut rates, and everybody habitually thought in terms of these things. Their honesty was not to be impeached for a moment. But their minds couldn't be kept away from these elements of the day's work. This was largely due to the method of filling railroad positions on a strictly civil service plane. The damaging practices of which I have spoken have long been swept aside. But the civil service habit still holds good, and probably has much to do with the railroads' failure to deal more successfully with public relationships.

Well-built, well-planned and well-equipped, wonders of engineering achievement, as our American railways are, they leave nothing in these respects to be desired. Everyone agrees that their bridges, tunnels, tracks and trains are without a peer. It is even admitted that financially they stand high, in spite of unexampled adversity; and that in executive force and ability their administrative powers and discipline are superb. But no one has any faith in their handling of human relationships. They have got rid of rebates and ticket scalping, but the citizen doubts if it was done for his particular good. He admits that they have abandoned improper participation in politics and have quit forcing legislation to suit their own ends; but still there is a suspicion of propaganda and insincerity. It is not for the roads to complain that the charges are untrue. It is rather for them to set about systematically to change the public attitude.

### The Complainer Is Not Listened To

Alas! How difficult a task! How hard to win the confidence of these, the roads' cash customers! Why? Because the roads have never been properly organized as merchandising machines. There is no other way through which a business organization can maintain human relationships; you cannot find any proper and accepted humanizing element in the business world, except the constant good merchandising of your wares. And it is doubtful whether the so-called railroad problem ever will disappear until the roads recognize this fact.

You can talk taxes and labor troubles, and legislation and injustice until the world's end, and your public will remain unconvinced. They have no patience with the man or the business that tries to tell its troubles. If merchants attempted such a thing they would soon find themselves where the railroads are today. That is merely because such talk violates a world-old business law. Merchants and manufacturers recognize this fact, and go after the very same public with all the latest devices and latest selling talk, and stick carefully to one text; the idea of selling people their

product and their way of doing business. Have any of the railroads ever tried that?

To accomplish this, these merchants and manufacturers make use of scientific selling research. They employ merchandising experts to show them where a new selling argument can be found. They use commercial research to dig up new ideas for the more general and extended use of their goods. And the people take to it kindly, and buy largely, and our plane of living is expanded and new luxuries introduced, and we spend our money gladly with these enterprising men.

But this modern merchandising idea—this modern adaptation of mass psychology—has found no proper lodgment with the railroad man. He is very likely to think, in fact, that talk about such a subject is meant only for the maker of breakfast foods or the keeper of a department store. He doesn't take at all kindly to the terms "consumer" and "cash customer"; he doesn't like to hear about turnovers and low units of cost; he doesn't believe that he has anything to sell in the public market place; he doesn't accept that cardinal merchandising doctrine that now pervades the commercial world to the effect that The Consumer is King!

And the result is a very direct one. "The Public and the Railroads" forms a recurring juxtaposition of terms that can be heard in every walk of life. It is talked about in the newspapers and on the farm and in the counting room. Its implied antagonism injects itself at every turn. It is constantly creating antagonistic legislation, and, most important of all, it is forever injecting itself into the question of railroad revenue. Nobody ever discusses the problem of "The Public and the Department Stores." There is no reason why anybody should, for no such problem exists. But if ever they are permitted so to do, the department stores will not last very long.

It is unfortunate that the railroads are so badly sold. The railroad executives who have permitted it have been badly trained. Their complete refusal to apply modern selling methods to their business is directly accountable for many of the worst difficulties they find themselves in. There has been, and there yet remains, too much of a hang-over in their minds of the idea that railroad men are not merchants, and that they cannot stoop to *sell* goods; too much of the idea that they really have nothing to sell.

It is a moot argument in their minds whether the sum total of the country's freight and passenger revenue can be forced by selling methods to show a gross increase. And the average traffic man will probably argue that it cannot. But such an argument destroys at one blow all claim to his own usefulness. Of course, transportation volume can be created; it has been done over and over again. New markets have been found and developed and new travel habits formed whenever the rail executives have determined that it should be done. But it has never been done, except by spurts—a world's fair here, or a new industry there, and the machinery set going up at the top; but it has never failed to make revenues grow. That is the ideal use of selling energy, and if it were being properly pushed, and constantly, not only would revenues show a direct increase, but public relationships would take on a healthier tone.

### One and a Half Per Cent for Selling

I think it can be demonstrated that a billion dollars ought to be added to annual gross revenues if organized methods of salesmanship were used.

For the year ending December 31, 1922, gross operating revenue for Class I roads was something over five and one-half billion, of which sum eighty-five million, or one and one-half per cent, was charged to traffic expense. This is what, in the commercial world, would be designated as selling expense. Now, any merchandising activity that reaches the general public and keeps in touch with it, must maintain a selling organization that will cost much more than this. With large manufacturers similar expense runs anywhere from seven to fifteen per cent. That is a good deal of money, but business men find the expenditure necessary, because it is the very arterial blood upon which their business is kept alive. They cannot do without it. It provides the selling machinery that is directly responsible for all the business they do.

Now if, as I have indicated, a business house spends from seven to fifteen per cent of its revenue as selling expense, such a house or group of houses would, if it were spending eighty-five millions a year, require its selling machinery to actually create and bring in and be responsible for, on the lowest basis, at least a billion dollars' worth of business every year. I doubt if the man exists today who would have the temerity to claim for the soliciting staffs of the Class I roads any such achievement. The traffic departments, authorities agree, are acutally responsible for a very small part of the business of the roads. They have done practically no local selling, and the through business they get is usually business they are able to seize from some competing line. Modern selling research and market analysis, so far as the roads are concerned, are practically unknown.

Which brings me back to the question of efficiency. Eighty-five millions is a stupendous sum, and I have indicated that it is not bringing adequate returns. At the same time I have shown that, as measured by commercial practice, the present outlay is not large enough. It is readily enough agreed that it is impossible to increase it until executives and boards of directors see such adequate and ample returns that the question of profit is clear. What then, is to be done?

The added revenue that we are talking about isn't the only thing that is at stake—there is a question of public good-will that is paramount. The missing revenue and the missing good-will are lacking largely because the roads and their ways of doing business have never been properly sold. New methods of training and new ideals are going to be required. Traffic heads and the executives over them will have to apply modern selling science and advanced selling methods if the railroads are ever to take their proper economic place. They have got to know how to make the people want to buy of them. They will have to train salesmen. They will have to show agents and the soliciting staff that mere stamping of tickets and routing of freight doesn't fill the bill. They will have to stop thinking only in terms of politics and labor, taxes and public affairs, and begin everlastingly, continuously and intelligently, to sell. They will have to learn how to talk to the people through the public prints. They will have to give intensive training to their men. They will have to begin serious and comprehensive analyses, institute continuous industrial research, and think in *selling* terms.

This doesn't mean merely stirring up big enthusiasm. It means a revolution in railway traffic ways. It means turning our backs on the moss-grown idea that the roads have nothing to sell. It means creating traffic where there was none. It means departmentizing, if necessary. The men who are handling these problems find their hands already full, and the roads suffer chronically from the inefficiency of men who are overworked. Their selling energy is atrophied not only for lack of vision, but for lack of modern machinery and of men who can call into full action these newer selling forces without being swamped with work already in their hands.

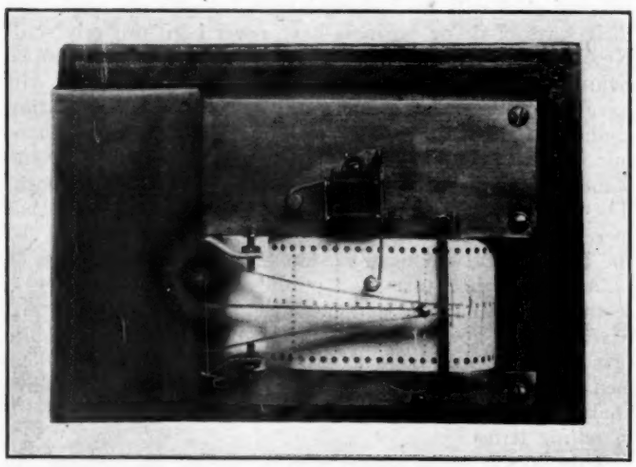
It will take time to do all this. But now is the ideal time to begin. There is going to be a lull for the next few months. The country is tired of disturbance, and this summer it is going to take a rest. It has already begun to turn its back on Europe, the European governments and their jangling; and to domestic agitators it has definitely closed its ears.

Never before did American railways have such an opportunity, unmolested by attack and strife, to make this forward step. It would be regrettable if the roads should fail to meet the opportunity. A few months from now it will be too late. A year hence there will be a legislative barrage that will occupy all of their time.

# Impact Recorder and Pilferage Detector

An instrument for use in box cars, which serves the double function of recording rough handling and detecting the time at which cars have been entered for pilfering, has recently been developed by the Impact Recorder Company, Burlington, Ia. The impact recorder operates on the inertia principle. The time when the car is entered is recorded electrically by connections attached to the car door. Both records are made on the same tape.

The instrument is equipped with a Seth Thomas No. 10, eight-day recording clock movement, which carries a paper tape under the two recording pencils at the rate of one inch an hour. The impact recorder consists of a pencil barrel with provision for inserting and adjusting the lead, which is located at the free end of a flat leaf spring that normally moves in a horizontal plane. The movement of the pencil is restrained by two other flat leaf springs, each of which resist the movement of the pencil from one side of the center line of the paper tape. Each of these springs is prevented from following the pencil across the center line by a stop pin set in a car which extends across the tape just outside of the pencil. The instrument is calibrated by means of the set screw adjustments on the restraining springs, shown in the



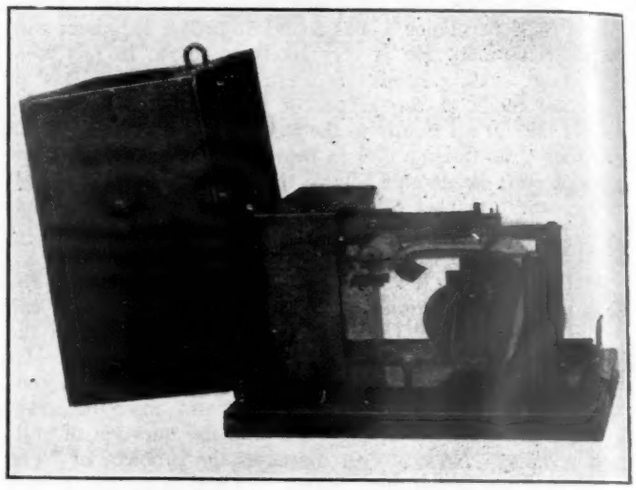
**Top View of the Impact Recorded with the Cover Removed**

top view of the instrument, which, once set, are arranged to be permanent.

The instrument case is placed in the car with the springs at right angles to its longitudinal center line. The inertia of the pencil causes it to move laterally whenever the car is subjected to a sudden change of velocity. The pencil draws a lateral line across the paper, which is calibrated to read directly in miles per hour. A velocity scale is printed on the tape, one for each 12 hours on the one o'clock line. Dots across the paper at each of the other 11 hours, correspond with the above scale reading.

In order that the tape may be readily set to correspond with the time at which the instrument is started, the driving drum is loosely mounted on the shaft. After the paper has been set and suitably marked with the date and a. m. or p. m., the cylinder is clamped to the shaft by tightening the thumb nut on the end of the shaft, shown in the side view of the instrument.

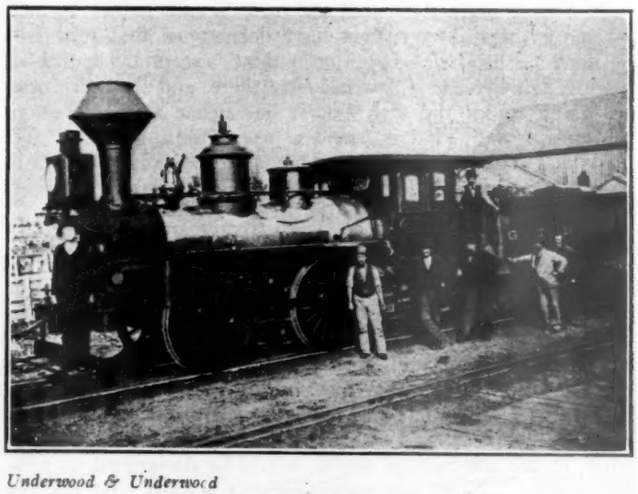
The pilferage detector consists of a buzzer magnet and armature, placed so that the armature extends laterally across the instrument. The outer end carries a pencil which rests on the paper. In order to avoid interference with the pencil of the impact recorder this pencil has been set forward on the scale so that it reads one hour later than the impact recorder. The record is therefore subject to a simple correction by the subtraction of one hour from the scale reading.



**Side View of the Instrument**

The metal box at the end of the instrument contains two dry cells which furnish the energy for the operation of the buzzer. The circuit is completed by wires carried outside the instrument. From binding posts provided for that purpose they are carried to open circuit connections either on the door post or door plate. The circuit is momentarily closed by a spring attached to the door whenever the door is opened or closed. The vibration of the buzzer armature produces a distinct record on the tape.

The weights of the parts of the instrument acting under inertia are so light that it can be used to measure vertical as well as horizontal impact. To measure vertical impact the instrument is placed on its side, in which position the weight of the pencil is not great enough to overcome the resistance of the restraining spring.



*Underwood & Underwood*

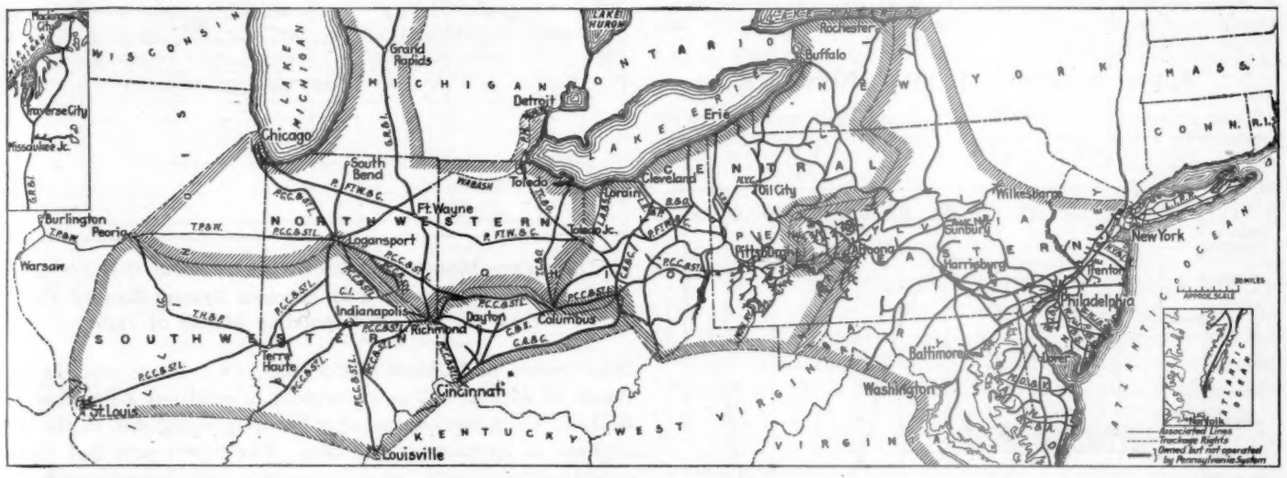
**In the Early Days on the Grand Trunk**

# Pennsylvania Continues Operating Improvement

## Coal and Shop Strikes, However, Prevent Full Recovery— Return on Investment Only 3.72 Per cent

NOTWITHSTANDING the strike of the coal miners and that of the railroad shopmen, the Pennsylvania System was able to continue into 1922 the marked improvement in operating results which it accomplished in 1921. In 1920, following the end of the federal control period, the Pennsylvania System had a net operating deficit (net after equipment and joint facility rents) of $62,622,483. In 1921 with a marked decrease in traffic, and correspondingly in gross earnings, it made such a drastic cut in expenses and gathered in the loose ends so effectively as to enable it to change the deficit into a net and report for the year a net operating income of $40,715,126.

The 1922 traffic and revenues were greater than those of 1921, but they were not as large as in 1920. To be more explicit, total operating revenues in 1922 were about $34,000,000 greater than in 1921, but $48,000,000 less than in 1920.




**The Pennsylvania System**

Expenses, however, in 1922 were approximately $7,000,000 less than in 1921 and they were about $197,000,000 less than in 1920. The final result in 1922 was a net operating income of $79,705,997. There have been but few years in which the Pennsylvania System's net operating income has exceeded this amount. The last previous year prior to 1922 in which this figure was approximated was in 1917, in which year there was a net operating income of $77,800,154. The fact that the 1922 net exceeded the 1917 figure by $2,000,000 is indicative of the great degree of improvement which the Pennsylvania System has effected in its operating conditions. It does not, however, mean that the Pennsylvania is back on a pre-war earnings basis, because there has been in these years a considerable increase in the property investment on which increased net earnings must be shown if conditions are to be regarded as satisfactory. The 1917 net was at the rate of 4.16 per cent on the property investment at that time. That for 1922 was at the rate of only approximately 3.20 per cent.

### 3.72 Per Cent for Pennsylvania Railroad

The Pennsylvania System has a total mileage of 11,643. The parent Pennsylvania Railroad Company now constitutes 10,601 miles of this total, the amount having been increased during the past year from 7,406 by the leasing of the Pittsburgh, Cincinnati, Chicago & St. Louis, the Grand Rapids & Indiana, the New York, Philadelphia & Norfolk and other subsidiary lines. The net operating income of the Pennsylvania Railroad—distinguishing it from the entire system of which it now forms much the greater part—in 1922 was $73,405,328, an increase of $36,247,994 over 1921, the 1921 figures having been restated to include the same mileage as in 1922. The 1921 net was at the rate of but 1.88 per cent on the property investment. That for 1922 represented a substantial increase but it still was only at the rate of 3.72 per cent.

On Monday of this week the Pennsylvania issued to the press an advance copy of its annual report for 1922. In that report there appear some significant remarks by President Rea relative to this situation. Outside of the income statement itself, they constitute, we believe, the most important single feature to be found in the report and for that reason we quote them here in part. President Rea said:

"The stockholders will understand that it would be impossible to pay the usual fixed charges and dividends out of that low return, if there was not added to that sum the non-operating income for the year, including the income from large investments, and if in addition the company had not pursued for many years the conservative policy of utilizing their surplus income and profits for certain improvements of the property and equipment, and for the retirement of funded debt, instead of providing the funds therefor from the sale of stocks or bonds.

"It is difficult to understand the continued failure of our federal and state governments, and the commissions appointed for that purpose to enforce a constructive railroad policy, when it is considered that the railroads are owned by the public and their savings, insurance and other institutions, your company alone having about 140,000 of such individual and corporate stockholders and about 90,000 bondholders. The railroads are conservatively capitalized compared with their real value, and their prosperity is essential to the prosperity of the country, but the credit of the railroads upon which depends the expansion of their tracks, equipment and facilities cannot be assured unless they are allowed to earn a fair return upon their investment, sufficient to encourage additional capital to be invested to give greater service to the public. This failure to deal equitably with the railroads, which constitute the chief collecting and distributing system for the nation's trade, commerce and products, is all the more incredible because it is

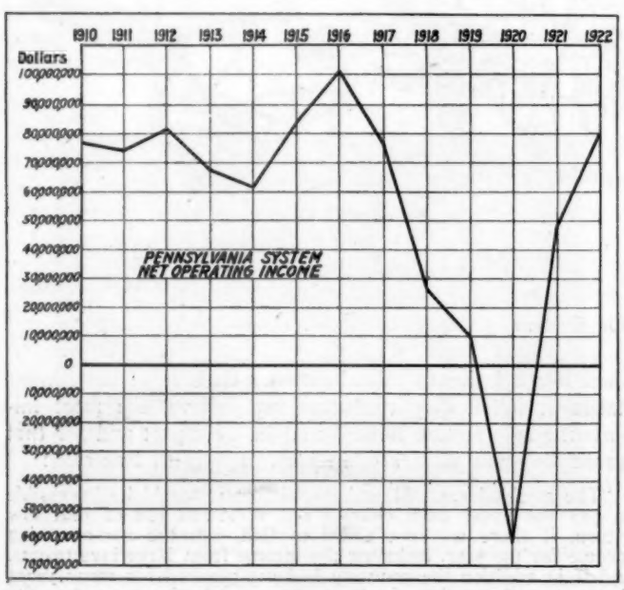
still possible to secure beneficial legislation for the farms, the industries, the highways and the waterways.

### Confiscation of Investment, Says President Rea

"It must be clear to reasonable people that a railroad regulatory policy which since 1908 has allowed a return upon the railroad investment averaging only about 4 per cent per annum for this 15-year period is not regulation, but confiscation of the investment. It is also, in substance, a slow but sure confiscation of the business of the country, because it has resulted in congestion of traffic in prosperous periods, on account of insufficient transportation facilities. This is a most costly policy for the nation to pursue, especially as Congress has, in the Transportation Act of 1920, directed the Interstate Commerce Commission to establish rates which will allow the railroads to earn a fair return upon the valuation of the railroad property as determined by the commission, so as to assure adequate transportation for the people of the United States. This fair return was at first 6 per cent per annum, and now it is fixed by the commission at 5¾ per cent per annum, but the railroads in 1922 realized only slightly in excess of 4 per cent upon the commission's valuation, which is considerably below the book value of the carriers. This congressional mandate places the responsibility upon the commission to see that a fair return is earned every year by the railroads. It likewise made the carriers responsible for the efficient and economical operation of their properties, but, unfortunately, our governmental policy in many ways prevents them from exercising ordinary business foresight, and promptly taking the action essential, to satisfactorily discharge that important responsibility. With a firm determination to be helpful on the part of the federal and state authorities and commissions, much could be accomplished, notwithstanding the serious restrictions in the present state and federal laws and regulations.

### Appeal to Courts Might Be Necessary

"It is expected that in 1923 the railroads will earn something approaching a fair return upon the investment, provided there is



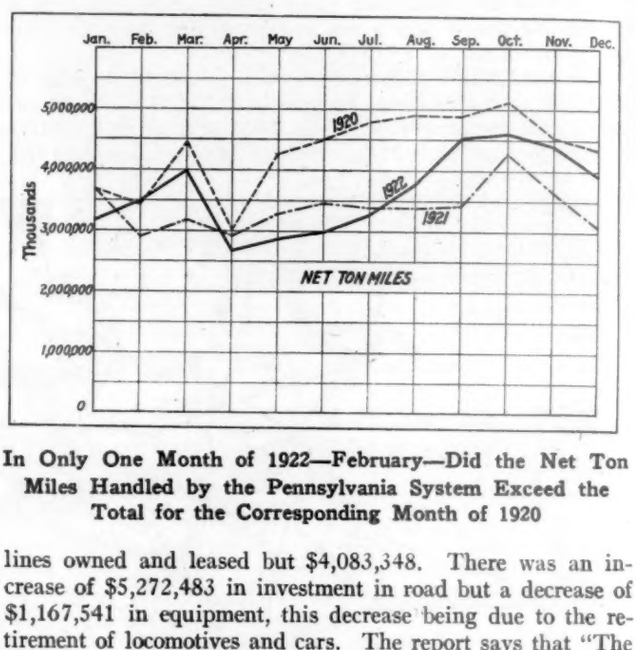

**Showing the Decline in Earnings in the Federal Control and Guaranty Periods and the Recovery in 1921 and 1922**

no marked recession in business or rates, and no labor disturbances to interrupt the transportation service. If the outlook did not appear more favorable than in past years, it is difficult to see how the railroads could any longer delay appealing to the courts for the equitable protection of the railroad investment which the regulatory bodies have so long neglected. The railroads do not plead for appropriations of government moneys, nor for any government guarantee; they ask only for the freedom, under reasonable regulation, to so operate their properties that they can earn from remunerative rates, a fair return upon their investment by rendering a greater and better public service, and thereby create such a margin of credit as will warrant the raising of the new capital urgently required to currently expand and improve that service.

"When the Pennsylvania Railroad Company and the other lines in its system were permitted to earn a reasonable return they pursued the sound policy of paying moderate dividends, and devoting the remaining surplus to the improvement of the property and equipment, and to the retirement of funded debt. In this way at least $373,000,000 that legally might have been distributed to the owners was devoted to improving the property and strengthening the credit of the various corporations in the system. They likewise expended in each year many millions of dollars provided through the sale of stock at, or above, par, and also other securities, for new lines, equipment and additions and betterments, in addition to the current renewals and replacements charged to operating expenses, for maintaining the roadbed, equipment and structures at a high standard. Had it not been for this wise policy, your company and other companies in its system would be unable to pay dividends at the current rates."

### Equipment Purchases

It is interesting commentary on President Rea's statements that a system the size of the Pennsylvania should in 1922 have increased its investment in road and equipment on the




**In Only One Month of 1922—February—Did the Net Ton Miles Handled by the Pennsylvania System Exceed the Total for the Corresponding Month of 1920**

lines owned and leased but $4,083,348. There was an increase of $5,272,483 in investment in road but a decrease of $1,167,541 in equipment, this decrease being due to the retirement of locomotives and cars. The report says that "The capital expenditures for enlargements and improvements of roadway, structures and equipment were again restricted to immediate operating necessities, but much larger expenditures must be made in 1923."

This situation will fortunately be much changed in the 1923 report issued a year hence notably with reference to the equipment. The Pennsylvania has recently placed large orders for equipment, deliveries on which began in 1922 and will be completed in 1923. The orders include 475 freight locomotives, 97 passenger locomotives, 43 switching locomotives, 3 electric locomotives, 3 gasoline rail motor cars, 100 cabin cars, 250 steel passenger cars and 20 steel dining cars. In addition, authority has been given for equipping 15 passenger cars with electric apparatus for electric suburban service and for increasing the carrying capacity of 10,188 coal cars by the substitution of 70-ton for 50-ton trucks. It is to be noted that no orders for freight cars have, as yet, been placed. It will be interesting to see whether the Pennsylvania continues to be the only exceptions to the large roads nearly all of which have placed orders for cars in the present buying movement.

### Net After Charges, $32,382,058

From the operating point of view our interest may be said to be in the results secured by the Pennsylvania System as a whole. From the financial point of view, attention will be directed naturally to the income statement of the parent Pennsylvania Railroad Company. That statement for 1922

is involved by the changes contingent upon the leasing of the subsidiary lines hitherto made a part of the system by majority or nearly complete stock ownership only. For example, one of the changes is an increase of over $18,000,000 in the item of rent for leased roads. However, the net after fixed charges for the year was $32,382,058 which was an increase of $8,074,389 over 1921. The company charged to its income account in 1922 dividends aggregating 5 per cent, or $24,958,670. Six per cent dividends would have totaled $29,950,404. The 6 per cent rate was restored last November. The total of 5 per cent was made up of the 1 per cent quarterly disbursements of May and August, 1922, and the 1½ per cent payments for November, 1922, and February, 1923. With reference to the dividend rate the report says that "The improved net results and business outlook enabled the directors to resume quarterly dividends at the rate of 1½ per cent in November, 1922, which it is hoped under fair business conditions, and by vigilant management and economical operation, will be maintained." Whether this means that the 6 per cent rate may now be assumed to be safe is apparently somewhat of a question.

The preliminary annual report issued on Monday contains much information about the Pennsylvania Railroad Company but little about the system as a whole. There are, however, little or no traffic and operating statistics given either for the railroad company or for the system. There does, however, appear a comparison of some of the essential system figures with the figures for 1920. One fact of importance

PENNSYLVANIA SYSTEM

| | 1922 | 1921 | 1920 |
|---|---|---|---|
| Freight revenues | $456,278,914 | $420,081,057 | $487,997,473 |
| Passenger revenues | 176,527,447 | 183,484,099 | 187,583,859 |
| Total revenues | 696,599,768 | 662,756,803 | 744,848,986 |
| Maintenance of way and structures | 84,638,072 | 86,648,038 | 116,071,517 |
| Maintenance of equipment | 175,670,577 | 174,048,714 | 229,989,108 |
| Transportation | 278,510,094 | 288,274,205 | 386,839,969 |
| Total expenses | 573,627,056 | 580,310,839 | 771,228,929 |
| Net operating income | 79,705,997 | 40,715,126 | def.62,622,483 |
| **Operating and Traffic Statistics** | | | |
| Net ton-miles | 43,682,288,000 | 40,568,580,000 | 51,985,190,000 |
| Net tons per train | 837 | 841 | 877 |
| Net tons per loaded car | 31.4 | 34.0 | 34.9 |
| Miles per car per day | 19.8 | 18.8 | 20.2 |
| Net ton-miles per car per day | 415 | 393 | 467 |
| Average for year: | | | |
| Per cent bad order cars | 11.6 | 10.7 | 5.3 |
| Per cent unserv. locomotives | 25.1 | 24.7 | 29.7 |
| Quantities used in maintenance: | | | |
| Rail, tons | 133,520 | 149,765 | 107,258 |
| Ties, number | 6,097,662 | 6,027,879 | 5,295,537 |

given is that the monthly payroll of December, 1920, carried 280,733 employees but that the payroll for December, 1922, carried but 243,459, a decrease of 37,274. The operating expenses, it is further stated, were decreased as between 1920 and 1922 over $197,000,000, of which $108,000,000 was in transportation expenses. With reference to maintenance conditions, the report gives these indicative details: "The low net return earned in 1922 on the total investment requires that a prudent policy of economy in maintenance must still be exercised, although the volume of traffic could be materially expanded by improved and increased terminal, yard and line facilities, and more equipment."

The question that now arises is as to whether the Pennsylvania has as yet succeeded in restoring its operations to a pre-war status of efficiency. It seems hardly correct to answer this question with an unguarded affirmative, particularly in view of President Rea's own remarks already quoted. The year 1922 lacks many things as a background on which to view this situation. For five months the coal mines in the union coal fields served by the Pennsylvania were idle. The road did, of course, secure a large tonnage of non-union coal from its connections, notably, one presumes, from the Norfolk & Western, but that there was a decided effect on operating revenues is patent, notwithstanding. The Pennsylvania, as a result of its employee representation plan, did not suffer as severely from the shop strike as some of its neighbors, but it did feel the strike, nevertheless, and particularly in the latter part of the year, after union coal again began to move, after several of its neighbors had settled with the shopmen and as equipment began to deteriorate for want of proper repair. It is noteworthy that in only one month of 1922—February—did net ton-miles exceed those for the corresponding month of 1920.

With reference to equipment conditions it may be noted that the Pennsylvania on July 1, 1922, had 19.7 per cent of its locomotives held for repairs requiring over 24 hours and that it had 1,020 serviceable locomotives stored. This percentage rose gradually to September 15, being on that date 23.6 per cent. On March 1, 1923, the percentage was finally reduced to but 18.9 per cent, but on that date there were only 11 serviceable locomotives stored. These details indicate that the Pennsylvania suffered from the strike, but relatively less than many of its neighbors. Substantial improvement has been made in the bad order car situation, the percentage of bad order cars on July 1 being 13.6 per cent; on August 1, 15.3 per cent, and on March 15, 1923, but 6.8 per cent. There are given in a table some of the important figures of operation and maintenance for the three years 1920, 1921 and 1922. The figures of car load and train load are less in 1922 than in the two preceding years—the result of the reduced tonnage of coal.

# Treating Ties with Creosote in Two Minutes

THE REDUCTION in the time required to treat cross ties of standard sizes with creosote from the present average of four to six hours to one-half as many minutes is the objective which the Century Wood Preserving Company, Pittsburgh, Pa., has been endeavoring to reach in investigations which have extended over a period of more than two years. That this objective is possible of attainment is indicated by experiments which have been made recently at

**Condition of the Tie Before Treatment**

Orrville, Ohio, where ties of various woods have been treated successfully by the new method in two to three minutes. These experiments are the culmination of an extended investigation in this country and abroad to develop some means of reducing the time required for the treatment of timber and thus make it possible to secure a sufficient output from a plant small enough to be mounted on a car and moved freely from place to place.

Briefly the system involves the use of pressures considerably higher than those ordinarily employed, oil being injected under pressures ranging from 500 to 1,400 lb. per sq. in., for periods ranging from 15 sec. to 70 sec., the pressure and length of treatment varying with the timber. After the

pressure is released the excess preservative is withdrawn and a vacuum is drawn for 40 to 60 sec.

The success of this plan depends upon the accurate control of the pressure to prevent injury to the wood. Because of unfortunate experiences with the detrimental effect of high pressures in the past, careful attention has been given to this phase of the problem here and material which has been treated by this process has been subjected to detailed tests by the Pittsburgh Testing Laboratory to determine to what extent, if any, the strength of the timber is affected by this

RUEPING PROCESS

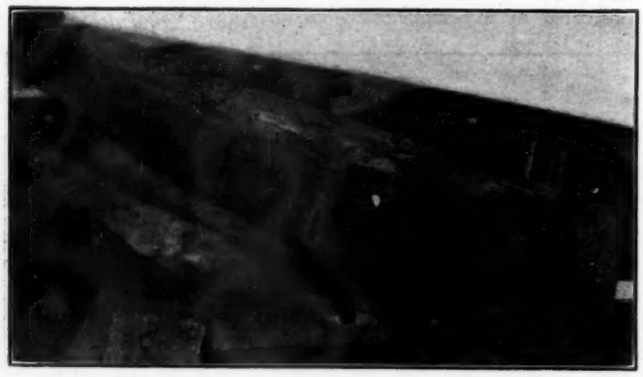
| | Charge No. 9796 | Charge No. 9856 |
|---|---|---|
| Application of air pressure— | | |
| Amount | 60 lb. | 60 lb. |
| Time | 15 min. | 25 min. |
| Pressure on preservative— | | |
| Amount | 200 lb. | 200 lb. |
| Time | 3½ hr. | 3 hr. |
| Temperature | 180 deg. F. | 180 deg. F. |
| Application of vacuum— | | |
| Amount | 23 in. | 21 in. |
| Time | 45 min. | 45 min. |
| Total time of treatment | 4 hr. 55 min. | 4 hr. 30 min. |

CENTURY HIGH PRESSURE PROCESS

| Kind of Wood | Temperature of Preservative in Degrees F | Pressure: Time Applied Seconds | Pressure: Amount in Lb. | Vacuum: Time Applied Seconds | Vacuum: Amount in Hg. |
|---|---|---|---|---|---|
| Species for first group of test specimens: | | | | | |
| Northern jack pine | 180 | 30 | 500 | 60 | 18.5 |
| Southern yellow pine | 180 | 30 | 500 | 60 | 18.5 |
| Hard maple | 180 | 15 | 800 | 30 | 19.0 |
| Red oak | 170 | 70 | 750 | 30 | 20.5 |
| Species for second group of test specimens: | | | | | |
| Hard maple | 180 | 15 | 800 | 30 | 19.0 |
| Beech | 170 | 70 | 750 | 30 | 20.5 |
| Northern jack pine | 180 | 30 | 500 | 60 | 18.5 |
| Southern yellow pine | 180 | 30 | 500 | 60 | 18.5 |
| Red oak | 176 | 30 | 1400 | 45 | 19.0 |

treatment. This was done by comparing the strength of the timber so treated with that of timber treated by the standard Rueping process and with that of timber untreated.

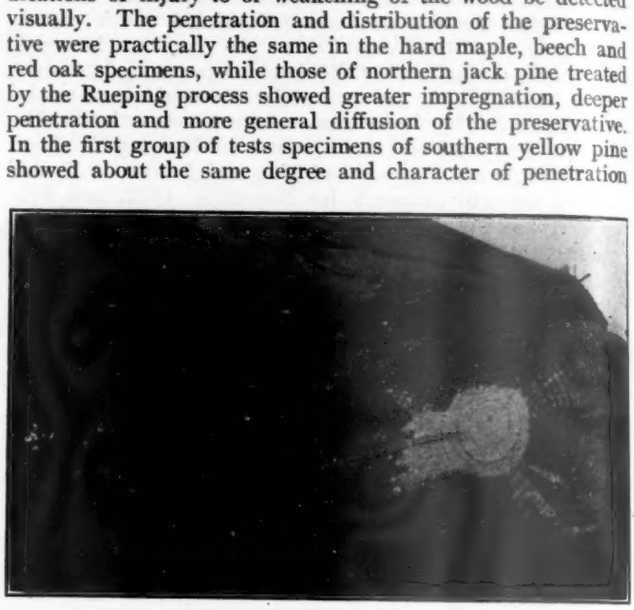
In a series of tests made by this laboratory specimens of red oak, hard maple, beech, northern jack pine and southern yellow pine were cut from representative air-seasoned cross



**Appearance of the Tie After Being Treated**

ties taken from the regular stock stored in the yard of the Ohio Wood Preserving Company at Orrville and were subjected to two different sets of tests. In one, specimens of standard test size were cut from untreated ties and then treated, while in the other the specimens were cut from ties of standard section after treatment. The specimens were planed to a uniform size of two inches square. The preservative used in the treatment was creosote oil complying with the American Railway Engineering Association's specifications for Grade 2. The details of the treatment are shown in the table above.

After being treated by the two processes the specimens were subjected to tests to determine their compression perpendicular to the grain, their hardness, and their shear parallel to the grain. There was no apparent difference in the external or internal appearance of the test specimens treated by the two processes. In neither case could any indications of injury to or weakening of the wood be detected visually. The penetration and distribution of the preservative were practically the same in the hard maple, beech and red oak specimens, while those of northern jack pine treated by the Rueping process showed greater impregnation, deeper penetration and more general diffusion of the preservative. In the first group of tests specimens of southern yellow pine showed about the same degree and character of penetration



**A Section Through the Tie, Cut Immediately After Treatment**

as those treated by the Century High Pressure method, while in the second group of tests the new method showed deeper and more thorough penetration.

As far as strength is concerned, specimens treated by the Rueping process show slightly less strength than untreated

SUMMARY OF AVERAGE RESULTS

| | Compression Perpendicular To Grain Test Crushing Strength at Elastic Limit in Pounds Per Square Inch | | | Hardness Test Hardness Load in Pounds | | | Shear Parallel To Grain Test Shearing Strength in Pounds Per Square Inch | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | A | B | C | A | B | C |
| Northern Jack Pine | | | | | | | | | |
| High pressure treatment | 687 | 825 | 756 | 531 | 551 | 541 | 1181 | 1229 | 1205 |
| Rueping Process | 700 | 700 | 700 | 536 | 570 | 553 | 1180 | 1165 | 1172 |
| Untreated | 706 | 719 | 712 | 526 | 531 | 529 | 1198 | 1237 | 1217 |
| Southern Yellow Pine | | | | | | | | | |
| High Pressure Treatment | 844 | 675 | 759 | 722 | 609 | 665 | 1319 | 1455 | 1387 |
| Rueping Process | 825 | 850 | 837 | 662 | 663 | 662 | 1473 | 1510 | 1491 |
| Untreated | 800 | 837 | 819 | 677 | 649 | 663 | 1361 | 1524 | 1442 |
| Hard Maple | | | | | | | | | |
| High Pressure Treatment | 1800 | 1900 | 1850 | 953 | 1324 | 1139 | 1485 | 1666 | 1565 |
| Rueping Process | 1481 | 1888 | 1684 | 1042 | 1389 | 1215 | 1582 | 1798 | 1690 |
| Untreated | 1719 | 2037 | 1878 | 1043 | 1379 | 1211 | 1482 | 1887 | 1684 |
| Red Oak | | | | | | | | | |
| High Pressure Treatment | 1437 | 981 | 1209 | 995 | 803 | 899 | 1545 | 999 | 1272 |
| Rueping Process | 1431 | 1100 | 1265 | 1063 | 811 | 937 | 1509 | 1081 | 1290 |
| Untreated | 1456 | 969 | 1213 | 1164 | 805 | 984 | 1615 | 1033 | 1324 |
| Beech | | | | | | | | | |
| High Pressure Treatment | ... | 1200 | 1200 | ... | 697 | 697 | ... | 1382 | 1382 |
| Rueping Process | ... | 1100 | 1100 | ... | 692 | 692 | ... | 1531 | 1531 |
| Untreated | ... | 1194 | 1194 | ... | 726 | 726 | ... | 1497 | 1497 |

Note:—
Specimens tested were cut to test size from standard cross ties.
Column "A"—Specimens treated after being cut from untreated ties.
Column "B"—Specimens cut from ties after ties had been treated.
Column "C"—Average of columns "A" and "B."
Hardness test considered in determining load required to imbed steel ball .444 inch in diameter to a distance equal to its radius

specimens and those treated by the Century High Pressure method slightly less than those treated by the Rueping process.

Averages of all tests of specimens of the same species indicate that the crushing strength at the elastic limit is decreased more by the Rueping treatment than by treatment

by the Century High Pressure method but the difference is so small that it may be disregarded in view of the method by which the elastic limit was determined. Results of hardness tests of all species indicate a decrease of hardness strength of approximately one-half of 1 per cent after treatment by the Rueping process and approximately 2½ per cent after treatment by the Century High Pressure method. An average of the results of shear-parallel-to-grain tests of all species indicates no decrease in shear strength in specimens treated by the Rueping process and approximately 4 per cent decrease in species treated by the Century High Pressure method. Averages of all three of the strength tests made for all species show a decrease in strength of approximately 1¼ per cent in species treated by the Rueping process and a decrease of approximately 2½ per cent in specimens treated by the Century High Pressure method. In general, the results indicate that there is very little decrease in the strength of woods treated by either the Rueping process or the Century High Pressure method and that the decrease in strength in specimens treated by the Century High Pressure method is only slightly more than the decrease in specimens treated by the standard Rueping process.

Encouraged by the success of these experiments a plant has been designed to treat eight ties in a charge. On the basis of a charge every five minutes this will give a treating capacity of 2,000 ties in a 20-hr. day. This involves a cylinder 26 in. in diameter and 18 ft. 6 in. long which, with its auxiliary equipment, can be mounted on a standard well-type flat car. It is anticipated that with a plant of this character which can be moved readily from place to place it will be practicable to treat ties in limited quantities for small roads, particularly where the ties originate along the line, which it is not now economical to ship to a larger plant for treatment. Such a plant should also afford marked economies through savings in transportation made possible by treatment at more points along a larger railway.

# De Luxe Passenger Cars for Chinese Railway

## Modern Steel Equipment Conforming to American Practice Built for the Tientsin-Pukow Line

THE TIENTSIN-PUKOW RAILWAY, owned by the Chinese Government, is one of the most important north and south lines in China, the Pukow terminus being on the Yangtze river opposite Nanking, while Tientsin is the port of Peking. The American Car and Foundry Export Company has supplied five trains de luxe to this road, all of the cars being of steel. The total order includes 45 cars; 10 first-class, 10 second-class and 10 third-class sleeping cars; 5 drawing room and sleeping cars, and 5 dining cars, all of which were 72 ft. 6 in. long. There were also 3 private cars, 76 ft. 6 in. long.

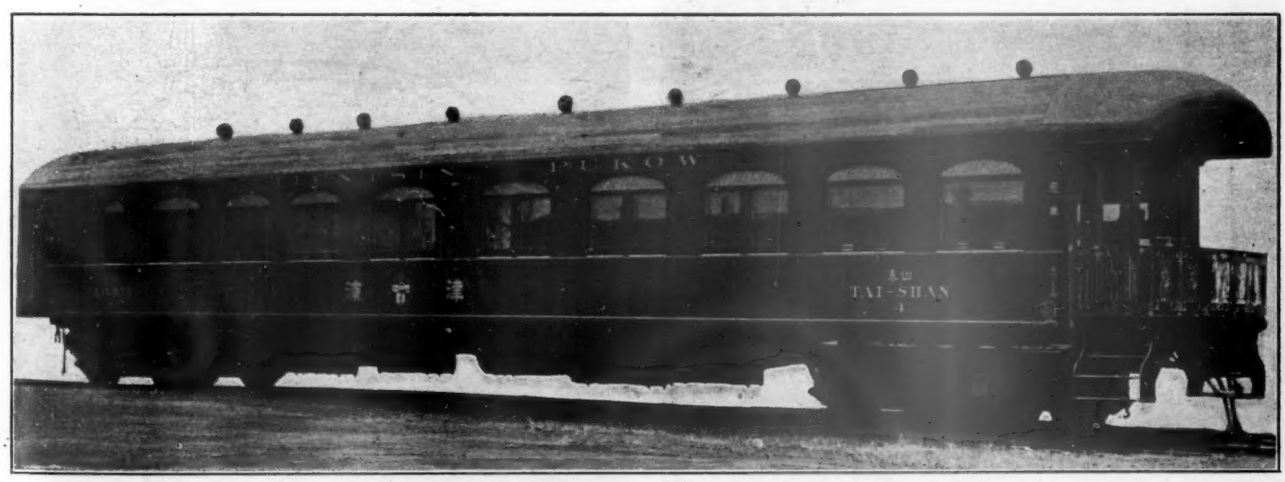



Fig. 1—A Private Car of Modern Construction for the Tientsin Pukow

The general design of the cars is the selection of the director general of the railway and his associates, all of whom are Chinese. In general, they have adopted the American arrangement of floor plan in the dining cars, while for the sleeping cars compartment sleepers are used for each one of their three classes—first, second and third.

An exterior view of one of the private cars is shown in Fig. 1. In outside appearance, all of the cars are similar. An arched roof is used, and the roof is built with double carlines so that there is a free circulation of air between the steel ceiling on the inside and the outer sheathing.

In the first-class compartment sleeping cars, each compartment has its own lavatory and the beds are placed transversely, instead of longitudinally, in the car. The capacity of this type is 16 passengers per car.

In the second-class compartment, the Mann type of berth has been used, two upper and two lower berths per compartment. The backs of the sofa seats fold up to form the upper berth. There are seven compartments in each car, making the total capacity 28 passengers.

In the third-class compartment, each compartment has six berths, one formed by the sofa seat, one by the sofa back, and the topmost one by a hinged berth swinging out from the side of the car. Forty-eight passengers can be accommodated in each of these cars.

The interior of a private car is shown in Fig. 2, a first-class compartment in Fig. 3, that of the dining car in Fig. 4,

and a section of a combination drawing room and sleeping car in Fig. 5.

All of the cars are modern throughout, having steel construction, electric lights, steam heat, and equipment along

Fig. 2—Interior of Private Car

the lines of the best practice in this country. A four-wheel truck with steel frames is used for all the cars.

This equipment was completely erected and varnished inside and out in the American Car and Foundry Company's shops at Wilmington, Del., before shipment. The cars were

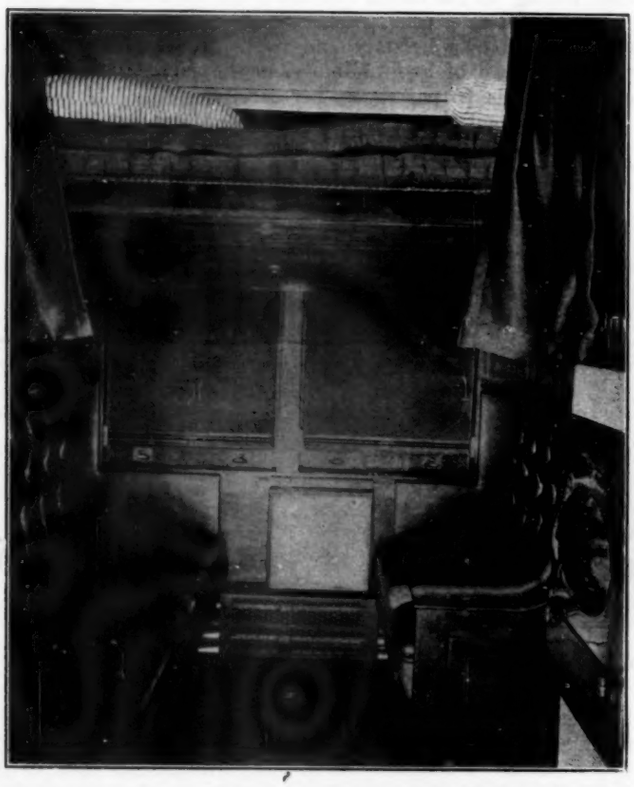


Fig. 3—Interior of Compartment in First-Class Sleeping Car

dismantled and shipped in sections from Wilmington, Del., to Pukow and reassembled there quickly without having sustained any damage in transit. By a special method developed by the American Car and Foundry Company it was possible to erect the cars, rivet the sections together and put them into service, without even the addition of a coat of varnish, in the railway shops at Pukow. The work was done most efficiently by the Chinese workmen employed in the railway shops. The installation of the heating equipment and a very large amount of plumbing work, and the electric lighting installation, wires for which were run in conduits, presented no difficulties at all to the force of workmen.

The American Car and Foundry Company has recently

Fig. 4—The Dining Cars Conform to American Practice

built at the Wilmington, Del., shop narrow gage steel cars for the Chilean State Railways. As in the above, these cars comprised among others sleeping cars of modern steel construction, fully equipped in the builder's shops, then taken apart in sections, boxed, and shipped by sea to Coquimbo, Chile. These cars arrived at Coquimbo a short time before the earthquake and tidal wave, and by reason of the con-

Fig. 5—Interior of a Combination Drawing Room and Sleeping Car

gested condition of the Coquimbo shops, they were erected about 100 miles along the line from Coquimbo. Because of this the cars were not destroyed, while the larger part of the equipment in Coquimbo simply disappeared, being swept away by the tidal wave.

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NEWSPRINT PAPER made in Canada in one month—January—totaled about 100,000 tons.

# Judge Lovett Disapproves of Holden Plan

## Claims This Grouping Will Greatly Strengthen Hill System at Expense of Harriman Lines

"CONSOLIDATING all railways west of Chicago and the Mississippi river into four systems as proposed recently to the Interstate Commerce Commission by Hale Holden, president of the Chicago, Burlington & Quincy, would create many unnatural alliances and would greatly strengthen the so-called Hill group of railroads and greatly weaken the so-called Harriman group," said Judge Robert S. Lovett, chairman of the Union Pacific System at a hearing before Interstate Commerce Commissioner Henry C. Hall held at San Francisco, Cal., on April 2.

The commission's tentative plan, comprising seven instead of four systems, was characterized as affording the basis and groundwork which should be departed from only with great caution. The Holden plan, grouping the Union Pacific with the Chicago, Milwaukee & St. Paul was strongly condemned, the witness explaining that the commission's plan of placing the Chicago & North Western with the Union Pacific was the only logical grouping, as the Chicago, Milwaukee & St. Paul is a competitor and the Chicago & North Western a connection and natural ally. Should the Hill lines merger be approved, Judge Lovett said a remerger of the Harriman lines should be authorized to meet the strong combination which would be effected by the Great Northern, Northern Pacific and Burlington. The retention of the Central Pacific by the Southern Pacific with the same conditions imposed by the commission in the recent hearing is satisfactory to the Union Pacific as they protect with reasonable adequacy the rights of the Union Pacific, he said.

Mr. Lovett discussed the Holden plan in detail as follows:

"The first and most obvious effect of Mr. Holden's plan is that it combines and greatly strengthens the so-called 'Hill' group of railroads including the Burlington, and greatly weakens the so-called 'Harriman' group including the Union Pacific. It provides for the permanent reunion and consolidation of the Hill lines which were dissolved as an illegal combination by the notable Northern Securities decision of the Supreme Court and it adds to that combination the Colorado & Southern; Fort Worth & Denver City and the Kansas City Southern, all strong prosperous lines, together with five small and less prosperous lines which later, however, had been included with the Hill lines in the tentative plan of the commission.

"The next most obvious effect is that it accomplishes the purpose of the long and persistent fight which the Hill lines have been making against the tentative plan of the commission which proposed to consolidate the Chicago, Milwaukee & St. Paul with one of the Hill lines, and solves that problem by shifting it onto the Union Pacific in place of the Chicago & North Western, its best eastern connection, and gives the latter to the Santa Fe with which it is a competitor rather than a connection.

"Again, the Holden plan assigns to the Union Pacific group the St. Louis & San Francisco system with which it interchanges practically no business, and the Texas & Pacific and International & Great Northern, for which it would be difficult to find any use whatever, and the Chicago & Alton which it has never been able to utilize substantially as a connection though unfortunately interested in it financially. And then to this aggregation the plan adds the Minneapolis & St. Louis, thereby relieving the Burlington-Northern Pacific group, to which the commission in its tentative plan had assigned that road.

### Unkind to Old Harriman System

"Another striking effect of the way the Holden plan treats the old Harriman system appears when after assigning to the Southern Pacific the Rock Island, it also puts with the Southern Pacific the Missouri Pacific and the Missouri, Kansas & Texas systems with which the Southern does but little business and with which it would have occasion to do even less after acquiring the Rock Island, and also the Kansas City, Mexico & Orient which the press dispatches report is about to be abandoned; the Missouri, Oklahoma & Gulf, and a half interest in the Denver & Rio Grande Western and the Denver & Salt Lake. The latter feature is especially significant because it would, indeed, effectually 'bottle up' or, as Prof. Ripley expressed it, 'short circuit' the Union Pacific since it would give the Southern Pacific a line of its own through, from San Francisco to Chicago by way of Ogden and Denver, paralleling the Union Pacific from Ogden both to Omaha and Kansas City, and paralleling also the lines allocated to the Union Pacific from Omaha to Chicago and elsewhere east of the Missouri river.

"The plan is more kind to the Santa Fe system for it takes away from the Union Pacific group where the commission's tentative plan places it, the Chicago & North Western which, in connection with the Union Pacific, is the door and gateway for most of the competition out of Chicago with the Santa Fe for Pacific coast traffic, and turns it over to the Santa Fe together with the Chicago, St. Paul, Minneapolis & Omaha, which is the principal connection and almost the sole reliance of the Union Pacific for traffic coming to its line at Omaha from St. Paul, Minneapolis and that territory. It gives to the Santa Fe the Canadian Pacific controlled lines —the Minneapolis, St. Paul & Sault Ste. Marie and the Spokane International—thereby taking away another valuable connection of the Union Pacific at Spokane.

### Santa Fe Group Could Not Harm Business of Northwest Carriers

"Thus the plan sends the Santa Fe as far into the northwest as Spokane, Washington. By going through Canada and stopping short of Puget Sound, however, its capacity for harm to the business of other lines in the northwest would not be great for while almost in sight of the promised land—Seattle, Tacoma, Olympia, Portland—it is given no entrance therein but is held safely on the east side of the Cascade Mountains at Spokane. The Santa Fe is also given the St. Louis Southwestern; Chicago & Eastern Illinois; New Orleans, Texas & Mexico; the Western Pacific, and a half interest with the Southern Pacific in the Denver & Rio Grande Western and the Denver & Salt Lake. It takes away from the Santa Fe, however, the Colorado & Southern and the Fort Worth & Denver which the tentative plan of the commission put with the Santa Fe consolidation, and transfers them to the group embracing the Burlington and other strong Hill lines.

"Let me say now that I interpose no opposition to the consolidation of the so-called Hill group of railroads—the Great Northern, Northern Pacific, Burlington and their subsidiaries. But if that powerful combination is to be solidified and re-established in stronger form than ever by consolidation, then its ancient rival, the 'Harriman lines'—Union Pacific and Southern Pacific—should also be re-established and consolidated not merely because of the traffic support that

the Union Pacific and Southern Pacific could give each other in the competition that exists, but the financial strength and credit of competitors of the Hill lines in such a situation would be a matter of prime importance.

"This, as already pointed out, the Holden plan does not contemplate for that plan not only keeps the Union Pacific and Southern Pacific apart but proposes to load the Union Pacific down with unproductive lines, takes away from it its time honored ally and best connection at the Missouri river—the Chicago & North Western from which it receives almost 50 per cent of its total freight traffic interchange, and in connection with which it operates 16 passenger, mail and express trains daily, as against two with the Milwaukee—and turns it over to the Santa Fe.

"Worse still, it in effect builds the Southern Pacific, its great western connection, around and parallel to the Union Pacific all the way from Ogden to Chicago through tying it up with the Denver & Rio Grande, the Moffat Road, the Rock Island Denver lines and the Missouri Pacific lines.

"While the Southern Pacific is by reason of its location less of a competitor, the Holden plan loads it down with several large properties each of which of itself is a problem and with which the Southern Pacific does very little business and which are not supplementary to the Southern Pacific or to each other. Both the Union Pacific and Southern Pacific are sent far afield into territories where they have never been, where they have no business or connections and where apparently there is no shadow of reason for them to go. The Union Pacific is sent down into Tennessee, Alabama, Louisiana, Texas, Arkansas and Oklahoma with lines to New Orleans, Laredo on the Mexican border, and to El Paso, and again into northern Michigan. The Hill lines, however, are treated very conservatively in this respect and the only new territory in which they venture is from Fort Worth to Houston, Texas, and over the Kansas City Southern and another short line to New Orleans.

### Substitutes Milwaukee for North Western

"In place of the Chicago & North Western with which the tentative plan of the commission proposes to consolidate the Union Pacific, the Holden plan substitutes the Chicago, Milwaukee & St. Paul, which is a competitor of the Union Pacific for the Puget Sound country and is not a connection for transcontinental traffic except California, and its California traffic is relatively small since its main transcontinental traffic is for its own line to the northwest. With the single exception of its Chicago-Omaha line, none of the Milwaukee lines feed into the Union Pacific but feed rather to Chicago, Kansas City, St. Paul, Minneapolis and its through line to Puget Sound.

"While it is true, as has been said, that the Union Pacific and Milwaukee touch at a number of points as at Omaha and Kansas City and at several points in the Puget Sound country, the connection at Kansas City is unimportant because business between Union Pacific territory and Chicago is not handled via the Kansas City junction, but by the shorter and more direct route through Omaha; and as already stated, the business inter-changed with the Milwaukee at Omaha is very small in comparison with the North Western.

"With reference to the other junctions in the state of Washington, they are not important except for the business that the St. Paul gets over its own transcontinental line in competition with the Union Pacific and other Puget Sound lines and gives to the Union Pacific the short haul from the Washington junctions to origin or destinations on the Union Pacific. Another and a very strong reason why the Chicago, Milwaukee & St. Paul and the Union Pacific should not be consolidated, and in favor of the consolidation of the St. Paul with the Great Northern or Northern Pacific, is that both the Union Pacific and St. Paul are new lines in the Puget Sound country and the business there is not located on their lines.

"Neither of these systems had a line to Tacoma, Seattle or any other Puget Sound point until 10 or 12 years ago. The Northern Pacific and Great Northern, on the other hand, were pioneers and reached there at the beginning of business. The result naturally was that the industries and warehouses were already located on tracks of one or the other or both of these lines when the Union Pacific and St. Paul arrived and consequently each of the old lines does a great deal more business in the Puget Sound country than either of the others. To consolidate the St. Paul and Union Pacific into one system and the Great Northern and Northern Pacific into another would leave nearly all the Puget Sound traffic in the possession of one system and leave the other system with comparatively little.

"Mr. Holden gave some figures showing what he understood to be the number of cars interchanged by the Union Pacific and Milwaukee. I do not know them but I venture to suggest that they were mostly at junctions in the state of Washington and carried traffic on which the Milwaukee had gotten the long transcontinental haul and the Union Pacific got only a short haul, whereas the interchange with the Chicago & North Western was mostly at the Missouri river and represented a long haul for the Union Pacific.

### The Kansas City Convention

"Mr. Holden rather emphasized, I thought, in his statement to the commission, the importance of the St. Paul's Kansas City line as a connection of the Union Pacific and as a reason for the consolidation of the two systems. In this Mr. Holden has been poorly informed. Traffic destined to or from Chicago or to points on or served by the Union Pacific moves almost exclusively over the main line of the Union Pacific through Omaha and Council Bluffs and it would be a long and circuitous route to send any of it through Kansas City except such as has origin or destination in the immediate vicinity of Kansas City and any such is negligible in quantity or importance. Business on the Union Pacific lines in the vicinity of Kansas City and considerably west thereof is done with Kansas City and not with Chicago. Business between points north and west of Chicago on the Milwaukee lines and the Pacific coast which might be carried to Kansas City by the St. Paul when interchanged with the Union Pacific is carried to Council Bluffs or Omaha rather than to Kansas City if intended for the Union Pacific. I venture the opinion that business heretofore and even now interchanged by the St. Paul with the Santa Fe at Kansas City equals if indeed it does not exceed the business it interchanges at that point with the Union Pacific because the Union Pacific has nothing or practically nothing to offer in exchange at Kansas City since, as already stated, it handles such business through Omaha and Council Bluffs.

"I say nothing about the financial structure of the Chicago, Milwaukee & St. Paul, the St. Louis & San Francisco system, the Chicago & Alton, Minneapolis & St. Louis, Texas & Pacific and International & Great Northern with which the Holden plan proposes to consolidate the Union Pacific.

### Four Systems of Enormous Complexities

"An impressive feature of the Holden four-system plan is that next to the unification and consolidation of the Hill lines themselves and the shifting of the Chicago, Milwaukee & St. Paul onto the Union Pacific, it proposes four systems of enormous complexities, almost equal in size—practical equality in size apparently being regarded as of primary importance rather than traffic relationships, channels of trade and commerce and financial strength and prospects. The consolidation of the Hill lines with their subsidiaries into a single system would so far over-shadow its competitors and any other railroad system proposed in the United States in size and financial strength and possibilities that one might infer a desire to meet this objection had something to do with the jumbling of the International & Great Northern, the

Texas & Pacific and the St. Louis & San Francisco Systems with the Union Pacific and of the Missouri Pacific, Toledo, Peoria & Western and the Missouri, Kansas & Texas and various other lines with the Southern Pacific in order that there should be other systems equal in mileage and investment to the Hill combination however unequal in solidarity, financial strength and prospects and in traffic and operating relationship.

### Seven Systems vs. Four Systems

"The task imposed by Congress," said Mr. Lovett, "to prepare a plan for consolidation is an exceedingly difficult one." The manner in which it has been performed by Professor Ripley and the commission thus far in the tentative plan is, in his opinion, a remarkably able piece of constructive work. "The problem is new and stupendous," he said, "and I know of none in which the opportunities for serious, not to say fatal, mistakes are so numerous; and I confess very great admiration for a suggested solution in which so few were made. * * * One of the greatest virtues of Professor Ripley's work and the tentative plan of the commission is that the work seems wholly disinterested and whatever may be its defects, they are not selfish.

"It follows," he continued, "that I do not agree at all with the suggestion that the western and southwestern lines be divided into four systems as suggested by President Holden instead of seven as recommended by Professor Ripley and as provided in the tentative plan of the commission. Four systems comprising from 30,000 to upwards of 35,000 miles each and each extending from Puget Sound or the Pacific Ocean to the Great Lakes, to the mouth of the Mississippi river and the Gulf of Mexico and traversing most of the intermediate states make the combinations entirely too large for efficient management and service, for the welfare of the corporations themselves, their creditors and stockholders and for the public good; and present a situation which probably would be a source of much undesirable friction and in many ways a constant menace, especially in case of failure.

### Comparison With N. Y. C. or P. R. R. Irrelevant

"Mr. Holden's suggestion that the traffic handled by the New York Central and Pennsylvania, respectively, is as great or greater than the traffic handled by any of his four systems is, I submit, irrelevant. The problems of management of railroads extending only between New York, Chicago and St. Louis are different in many ways from the problems of management in new and rapidly developing territory extending all the way from the Canadian border, Puget Sound and the Pacific Ocean to the Great Lakes, the mouth of the Mississippi river, the Gulf and the Mexican border.

"The whole of the New York Central system is situated within a radius of about 1,000 miles and the same is true of the Pennsylvania—almost under the eye of the management—and the furthest point on the system from headquarters can be reached within 24 hours. Whereas a radius of 3,000 miles would not cover some, and barely cover any, of the four systems proposed by Mr. Holden. The New York Central System is situated in only 11 states and Canada, and the Pennsylvania System is situated in only 12 states, whereas Group 1 proposed by Mr. Holden traverses 20 states and Canada; Group 2—21 states; Group 3—19 states, and Group 4—25 states.

"Comparison of difficulties and problems of management and operation of short systems made up of two, four and six track railroads in old and settled sections with widely scattered single track railroads in a vast territory comparatively new and rapidly developing in many states does not prove anything. The problems on the former are almost constantly under the eye of the management and are less varied. As for capacity in the number and amount of trains and tonnage that can be handled, I have heard it estimated by transportation men that one double track railroad is equivalent to five single track railroads—which shows rather strikingly the irrelevancy of New York Central and Pennsylvania operations as proof of the practicability of the efficient management of systems of 30,000 to 35,000 miles, mostly single track railroads, in the West and Southwest. Mere movement of the traffic after they get it is one of the least problems of the western and southwestern roads. It is the getting of the traffic, the development of it, the improvements to be made and the getting of the money necessary to provide the railroad facilities to keep pace with and assist in the growth and development of the country.

### No Necessity for Northwest Lines Having Routes to Gulf

"There is no particular reason why the lines from the Pacific coast should have lines to the Mexican border or to the Gulf or to New Orleans and the southeast since the traffic between those sections is nominal. Of course I do not refer to traffic between California and the north Atlantic seaboard handled that way by the Southern Pacific over its Sunset Line in connection with its steamships between Gulf ports and New York and other northern ports. The Southern Pacific and the Santa Fe already have Gulf lines—the Southern Pacific in connection with its line to southern California and the Santa Fe in connection with its transcontinental line with its north and south business. The traffic of the Gulf territory is with the East and with the cities of Kansas City, St. Louis and Chicago and with the export of grain and such products from the grain states east of the Rocky Mountains; and the business with the Pacific coast except as controlled by the Southern Pacific and Santa Fe for the Atlantic seaboard as already stated is nominal. Hence I do not share Mr. Holden's opinion as to the importance of Gulf and New Orleans lines for central and northern transcontinental lines except as to grain, and even for this Kansas City and Chicago are primary markets.

"But more important still and almost startling is the inevitable tendency and effect of the Holden plan to divert grain from the trunk lines and Atlantic seaboard to the Gulf. Hitherto the Great Northern, the Northern Pacific, the Burlington, the St. Paul, the North Western, the Union Pacific and the Chicago Great Western have been impartial as between Atlantic and Gulf ports as their carriage did not extend beyond Chicago, Kansas City or St. Louis and they interchanged without preference with the trunk lines and the Gulf lines alike at the usual gateways. But the Holden plan ties each one of these great 'granger' roads up with a Gulf line of its own, but without any line east of Chicago or St. Louis, thus forcing all of them in their own interest thereafter, through control of car supply and otherwise, to exert their influence in favor of movement of all export grain over their own rails to the Gulf instead of being impartial as heretofore. If such consolidations are accomplished, where will the trunk lines and Atlantic ports get their grain for export? I am not their advocate, but only wish to point out this as another revolutionary and disastrous effect to some interests of the action the commission is asked to take.

### Some Suggestions As to Four Groups

"If the number of western systems is to be reduced from seven as proposed by Professor Ripley to four as suggested by Mr. Holden, a very different grouping from that proposed by Mr. Holden should be made. Surely if the Great Northern, Northern Pacific, Burlington and other Hill lines with their subsidiaries are to be consolidated, the Union Pacific and the Southern Pacific should also be consolidated. Their combined strength would be needed. It was, I believe, an unfortunate thing for the Pacific coast when they were separated. Without attempting to enumerate the effects, I mention as immediately present in mind only the fact that it

stopped the construction of a railroad through central Oregon. Of course I am not speaking for the Southern Pacific.

"Again, if the four-system plan is to be adopted, the Chicago, Milwaukee & St. Paul, rather than the Chicago & North Western as suggested by Mr. Holden, should be combined with the Santa Fe. The Chicago, Milwaukee & St. Paul would put the Santa Fe System throughout the northwest and into the Puget Sound country where it could continue to compete with the Hill lines and with the Union Pacific-Southern Pacific combination upon terms of equality—even more than equality—with the Union Pacific because it would have the shorter line except to Portland. True, this puts the Santa Fe into a territory where it has never entered but no more so than does the Holden plan except with this important difference—it puts the Santa Fe with this new acquisition in a position to compete with the Hill lines everywhere in the northwest and especially in the Puget Sound territory which the Holden plan does not do.

"Moreover, the St. Paul not only carries into Chicago where it connects with the Santa Fe but has a line extending down to the Mississippi river from Minneapolis and St. Paul and another coming from Lake Superior to Milwaukee and thence across country to Rock Island and Davenport where it connects with the line from St. Paul and Minneapolis (both of which have many branches) and extends on thence to Kansas City; and it could interchange over these lines with the Santa Fe either at Chicago or Kansas City all the traffic which the combined system could gather on the existing Milwaukee lines in Michigan, Wisconsin, Minnesota, Iowa and Illinois on and north of the Chicago-Omaha line of the St. Paul destined to California. Much of the territory in the states just mentioned served by the St. Paul is also served by the Chicago & North Western, but the latter has no line to Kansas City and its interchange with the Santa Fe would have to be at Chicago as a result of which it would have to haul eastward rather than westward much, if not all, of the California traffic it should interchange with the Santa Fe. Is it not obvious from a mere glance at the map that if any regard is to be had for proper movement of traffic and legitimate traffic interchange and development, the Chicago, Milwaukee & St. Paul, and not the Chicago & North Western, is the system that should be assigned to the Santa Fe consolidation?

"I believe that the tentative plan of the commission goes quite far enough in the size of the systems it creates and that any increase in the size of the systems proposed by the commission should be made with very great caution. Mere size, however, should not be a hard and fast rule or a controlling consideration. Traffic relations, the customary channels and routes of commerce and business and financial conditions and prospects of the lines concerned and especially the situation and relations of and the effect upon competing and rival systems should be prime factors.

"Mr. Holden also suggested alternatively certain other western groups such as the C. M. & S. P.-Soo Line-Iron Range group; the C. M. & S. P.-Union Pacific-Wabash; lines west of the Mississippi river group; the Illinois Central-Soo Lines-C. & N. W. group; Illinois Central-C. M. & S. P. group; Illinois Central-C. M. & S. P.-Missouri Pacific group; Illinois Central-C. & N. W. group; Illinois Central-C. & N. W.-Missouri Pacific group; but some of them do not involve the Union Pacific and such of them as do include it or dispose of the Chicago & North Western I have sufficiently discussed in connection with the other plan."

### The Union Pacific-Central Pacific Situation

Judge Lovett dealt at some length with the history of the Central Pacific and its relationship to the Union Pacific and the mutual dependence of these lines on each other. He referred to the decision of the Supreme Court ordering the dissolution of the control of the Central Pacific by the Southern Pacific as violative of the Sherman Act and to the recent hearing before the commission on the application of the Southern Pacific for authority to acquire control and the decision of the conditions imposed by the commission to the granting of the Southern Pacific application protected with reasonable adequacy the rights of the Union Pacific and that with these conditions imposed the Union Pacific would not object to a permanent consolidation of the Southern and Central Pacific. He said that the Holden plan providing for a half interest by the Southern Pacific in the Denver & Rio Grande Western and the Denver & Salt Lake lines would be inconsistent with these conditions and would be highly prejudicial to the Union Pacific. He also referred to the testimony already offered in behalf of the Union and Southern Pacific, asking that the Colorado lines of the Rock Island be eliminated from the proposed Southern Pacific group as the ownership of these lines would be likewise inconsistent with the conditions imposed by the commission in granting the Southern Pacific application to control the Central Pacific.

### Believes Consolidation Plan Will Not Aid Much in Solving Railroad Problem

Railroad consolidation will not in Mr. Lovett's opinion aid very much in solving the railroad problem. On this point Mr. Lovett said:

"Finally, to guard against possible misunderstanding of my views in stating our purpose to carry out as far as we can the tentative plan of the commission with the modification above suggested, I should like to add that I believe entirely too much is expected by some of our statesmen, and in some quarters of public opinion, from this commission's work and the effect of the Transportation Act of 1920 with respect to these consolidations. Good undoubtedly will come from consolidation and legal solidification into one company of lines naturally allied and grown together as one system but legally held by numerous different corporations loosely combined in common control through stock ownership. There will also be consolidations of some lines not at this time under common control or otherwise related where the stockholders are able to agree upon relative values. Yet the consolidation of independent systems will not be as rapid or as numerous, I fear, as are anticipated by many—at least without further legislation by Congress solving many of the problems that will present themselves even where the terms of consolidation have been agreed upon; and there will be great difficulty in the stockholders agreeing upon relative values even not counting those individuals who are in the habit of acquiring a small amount of stock and posing as an oppressed minority. A great difficulty in this connection is that there are many unsuccessful railroads in the United States which ought to be liquidated. Doubtless there are owners of these who are looking to this consolidation law as an opportunity for them to escape from their investments by unloading on the strong roads. Their properties are unprofitable and failures financially for one reason or another and sooner or later must be dealt with accordingly to their actual value based upon their earning capacity, present or prospective, regardless of their capitalization. I apprehend that financially strong roads asked by the commission, by the adoption of its plan of consolidation, to absorb these roads will be willing to take them, if at all, only at their actual value and that if there are any losses to be liquidated they must be borne by those who have sustained them rather than be shifted onto the stockholders of the successful roads.

"But if the object of the statute is accomplished and a plan for the 'consolidation of the railway properties of the continental United States into a limited number of systems' is adopted by the commission and carried out in full, it will not, in my opinion, aid very much in solving the railroad problem. . . ."

# Constructive Transportation Program for 1923

## Roads Plan for Handling Record Traffic. $1,100,000,000 of Expenditures Authorized

ANTICIPATING a continuance of record-breaking freight business, after having already during the past nine months transported more traffic than ever before in a corresponding period, despite the handicaps caused by the strikes of the miners and of the shop crafts since July 1, 1922, the railroads have adopted a concerted policy and intensive working program "to further improve transportation conditions and to make the best practicable provision to meet transportation requirements as they develop."

This program was set out in the form of resolutions based on recommendations submitted in a report of the Car Service Division of the American Railway Association, adopted at a meeting of the members of the A. R. A., and approved at a meeting of the members of the Association of Railway Executives in New York on Thursday, April 5, following earlier meetings of the board of directors of the American Railway Association, and of the executive committee of the executives' association.

The purpose of the meetings was to take account early of the prospects for the heaviest traffic to be moved over the railroads in their history, and to anticipate all possible measures available to handle this traffic to the satisfaction of the public.

Reports were secured by the executive committee from substantially all member roads showing the additional locomotives and cars that will be provided this year and also the additional roadway facilities, with particular reference to additional yard and side tracks, enlargements of terminal facilities, automatic signals and other facilities calculated to increase the capacity of the railroads. These reports were carefully reviewed and the members of the committee were gratified to learn that the improvement program for 1923 indicates the largest budget of new facilities, power and equipment, for many years, if not in the history of the roads, exceeding in estimated cost the figure of a billion dollars which James J. Hill many years ago said should be spent annually for railroad development.

It was stated at the close of the meeting of the executive committee on Wednesday that the committee was unanimous in the opinion that the operating program proposed by the directors of the American Railway Association, supplemented by the large increase in facilities which the roads had reported, promised satisfactory transportation results for the year.

Reports were also received from several committees which have recently been in conference with representatives of important business and commercial organizations looking toward further co-operation in order to secure the highest use of all available transportation facilities.

From January 1, 1922 to March 15, 1923, the railroads purchased 223,616 new freight cars. Of these 117,280 have been delivered and put in service. They also during that time purchased 4,219 new locomotives. Of that number 2,106 have already been placed in service. Practically all the equipment still on order is to be delivered by fall. Subsequent orders for additional cars and locomotives are constantly being placed.

The program was expressed in a statement in part as follows:

### Expenditures for Increased Facilities

"The railroads, in full realization of the necessity for the greatest improvement and expansion possible of the country's transportation facilities to meet the growing demands of commerce, actually expended in the year 1922—

| | |
|---|---|
| For Cars | $200,000,000 |
| For Locomotives | 45,000,000 |
| For trackage and other facilities | 195,000,000 |
| Total | $440,000,000 |

"The railroads have authorized expenditures for equipment and other facilities of approximately $1,100,000,000 for the year 1923, divided as follows:

| | |
|---|---|
| For Cars | $ 515,000,000 |
| For Locomotives | 160,000,000 |
| For trackage and other facilities | 425,000,000 |
| Total | $1,100,000,000 |

"The railroads are raising this enormous amount of additional capital largely through borrowed money on the abiding faith in the fairness of the American people and reliance on the continuance of the policy announced in the Transportation Act, 1920, as a measure of reasonable protection to investment in railroad property.

### The A. R. A. Transportation Program

"In order to bring about the most effective co-operation between the managements of the several carriers and to insure, to the highest degree practicable, adequate provision for the country's transportation requirements, a plan has been agreed upon which is set out in the following resolutions:

RESOLVED, First: That the report of the Car Service Division reviewing transportation conditions and presented at this meeting be approved, and that, in order to further improve transportation conditions and to make the best practicable provision to meet transportation requirements as they develop, the following recommendations are adopted by the railroads as a definite policy and working program:

1. That by October 1, 1923, when the peak movement ordinarily begins, cars awaiting repairs be reduced to the normal basis of five per cent of the total equipment of the country.
2. That by October 1, 1923, locomotives awaiting heavy repairs be reduced to the normal basis for the entire country of 15 per cent.
3. That to the extent coal is stored for railroad use complete the storage requirements by September 1 so that after that date the equipment and other transportation facilities may be used to the greatest extent for commercial coal necessities.
4. That the use of power and equipment for railroad construction and maintenance purposes be restricted to the minimum after September 1 in order that a maximum of power and equipment may be available for commercial purposes.
5. That railroads in producing and consuming sections impress upon all interested necessity for movement of coal and ore via the Lakes in the largest possible quantity early in the season. That railroads serving upper Lake ports carry on campaign for early purchase and shipment of coal from the upper lake docks to points of consumption.
6. That an effort be also made to bring about the prosecution of road and building construction work as early in the season as possible in order that equipment may be available for larger movement of seasonal commodities.
7. That all interested be impressed with the necessity for loading all cars to maximum capacity in an effort to bring the average loading to 30 tons per car for the entire country; for unloading cars promptly; increasing storage facilities where necessary and practicable and providing adequate siding capacity to facilitate loading and unloading, thereby increasing the number of available cars.
8. That every possible means may be adopted to increase the mileage per car per day to an average of 30 for the entire country, particular attention being given to prompt movement through

terminals and yards and to the issuance of embargoes when necessary to prevent congestion.

Co-operation of shippers and the public in the past has been most helpful in bringing about heavier loading, prompt unloading and increased mileage per car, and only by their continued co-operation and their full knowledge of what this means to their own transportation requirements can results be secured in these matters. It will be understood that each individual railroad will co-operate with its own shippers to this end and the Car Service Division will take similar action with national and district associations to bring about the fullest measure of co-operative effort.

9. In the event of a car shortage, reports to the Car Service Division should be carefully reviewed by each railroad organization so that the report will more nearly indicate the actual car shortage measured by the ability to load daily, rather than a cumulative shortage which does not reflect the daily existing condition.

10. The railroads have already established and have in active and effective operation a comprehensive organization in the Car Service Division for the central control and distribution of freight cars which, during recent periods of car shortage, has under difficult conditions, secured to the public the best possible use of available freight equipment. The Car Service Division as a central agency, and through their District Managers, together with the District Shippers' Committees, which have been and are being organized, will keep informed of traffic requirements with a view to the equitable and timely distribution and handling of equipment.

The railroads pledge themselves to renewed and effective compliance and co-operation with the directions of the Car Service Division, asserting the belief that, with the new equipment on order and the program for rapid conditioning of equipment requiring repairs, the freight equipment of the railroads will be handled and used in moving the commerce of the country to the best possible advantage.

The co-operation of the public with the railroads and their officers and employees generally is invited in order that by a better understanding and united effort transportation may be facilitated and the needs of the country more promptly and adequately provided for.

RESOLVED, Second: That individual roads give to the general public and to the patrons of their respective lines information as to their program, and also keep them currently advised of the progress made hereunder, including, so far as the individual line is concerned, information as to the progress made in its locomotive and car repairs and other improvements in transportation facilities.

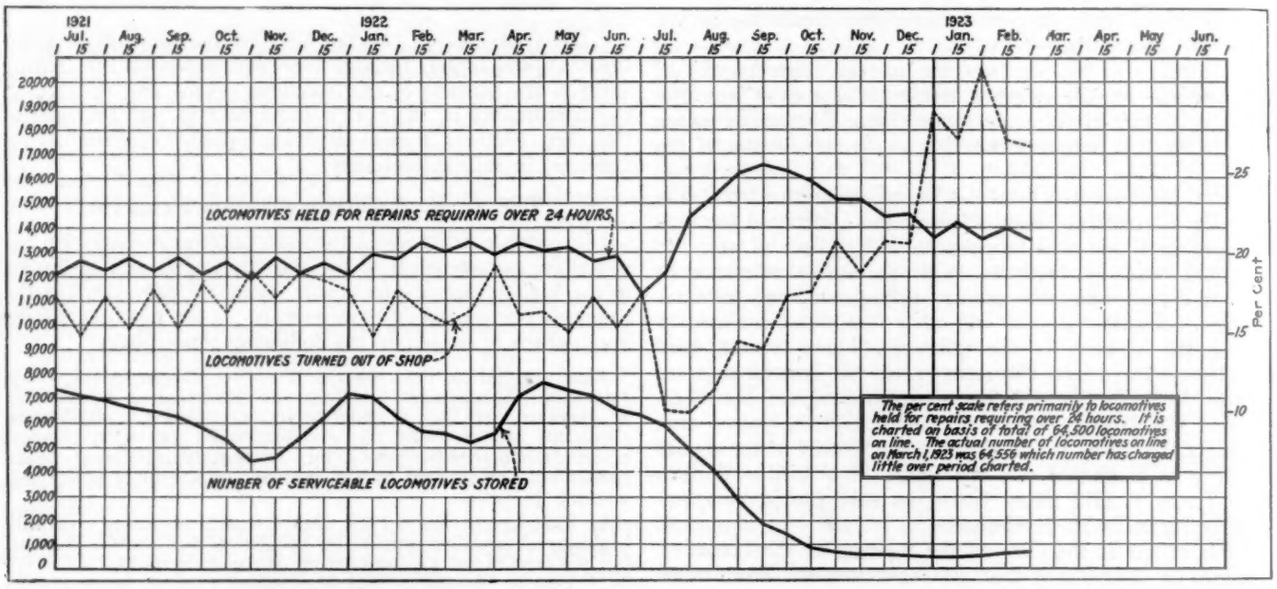
The freight car repair program is to be prosecuted with a view to conditioning for grain and grain products movement, which showed a particularly noticeable increase last year, the largest possible number of box cars, and extraordinary measures are also to be taken to reduce the number of refrigerator cars awaiting repairs to the lowest possible limit.

## Co-operation of Public Asked

An appeal was also issued for the co-operation of the public as follows:

"The effective co-operation of shippers during recent years has helped to lift American railroad performance to higher levels. At this time the railroads bespeak an even wider co-operation on the part of the public. It can assist by storing coal during the Spring and Summer months in anticipation of Fall and Winter requirements to as great an extent as possible. Everybody can help by looking forward. Every shipment which by foresight can be dispatched during April, May, June, or July, will help to decrease any congestion in September, October, or November. Every shipper who will load cars to capacity and every consignee who will promptly unload cars will by so doing save the equivalent of many cars for the benefit of all shippers.

"This appeal is made with full recognition by the railroads of their own responsibility for prompt movement of loaded or empty equipment as being one of the primary measures necessary to avoid waste of transportation. The railroads in the carrying out of their program confidently look forward to the successful movement of the largest volume of traffic in the history of the country and pledge their best efforts to that end."




**The Essential Details of the Locomotive Repair Situation Since July 1, 1921**

The Car Service Division has made a review of the conditions which have confronted the railroads in the handling of equipment during the past year and its recommendations were made in the light of that review and their previous experience. During the 37 weeks from July 1, 1922, to March 17, 1923, which included the strikes, the report of the Car Service Division showed the revenue freight loaded on the railroads of the United States amounted to 32,939,789 cars, as compared with 28,789,325 cars in the corresponding period of the year before and 31,312,945 in 1920-1921.

There was reported during the first eight months of 1922 an average daily surplus of 270,750 cars. The severe reported shortage began at 58,670 on September 1, and reached a maximum of 179,239 cars on October 31, since which time it has receded to 74,442 cars on March 14. The demand for all classes of equipment continues without any indication of lessening, the report said. There still remains considerable grain to move from the country elevators and farms and a very heavy fertilizer movement is under way, par-

ticularly in the Southern territory. Forest products loading also continues heavy with prospects good for sustained heavy movement.

### Prospective Business—1923

From the best information obtainable by the Car Service Division from railroad and other sources, there is every indication that there will be continued heavy business throughout the year. Based upon the assumption that business will continue to increase at the same rate as shown by the first weeks of 1923 over the weekly average for the corresponding periods of the past four years, the Car Service Division has prepared an estimate of the car loading for the remainder of 1923 which indicates a maximum for the week of October 20 of 1,085,000 cars. The previous record was made in the week of October 14, 1920, when 1,018,539 cars were loaded with revenue freight, and during the war year 1918, the maximum, reached in the week of September 23, was 989,788 cars.

The following indicates the percentage of all freight equipment awaiting repairs as of dates shown:

| | Heavy Per cent | Light Per cent | Total Per cent |
|---|---|---|---|
| January 1, 1922 | 11.3 | 2.4 | 13.7 |
| July 1, 1922 | 11.6 | 2.7 | 14.3 |
| January 1, 1923 | 7.2 | 2.3 | 9.5 |
| February 1, 1923 | 6.9 | 2.3 | 9.2 |
| March 1, 1923 | 6.9 | 2.6 | 9.5 |
| March 15, 1923 | 6.9 | 2.4 | 9.3 |

98,422 serviceable freight cars would have been added to the available supply if percentage of cars awaiting repairs were reduced to 5 per cent instead of 9.3 per cent as on March 15, 1923.

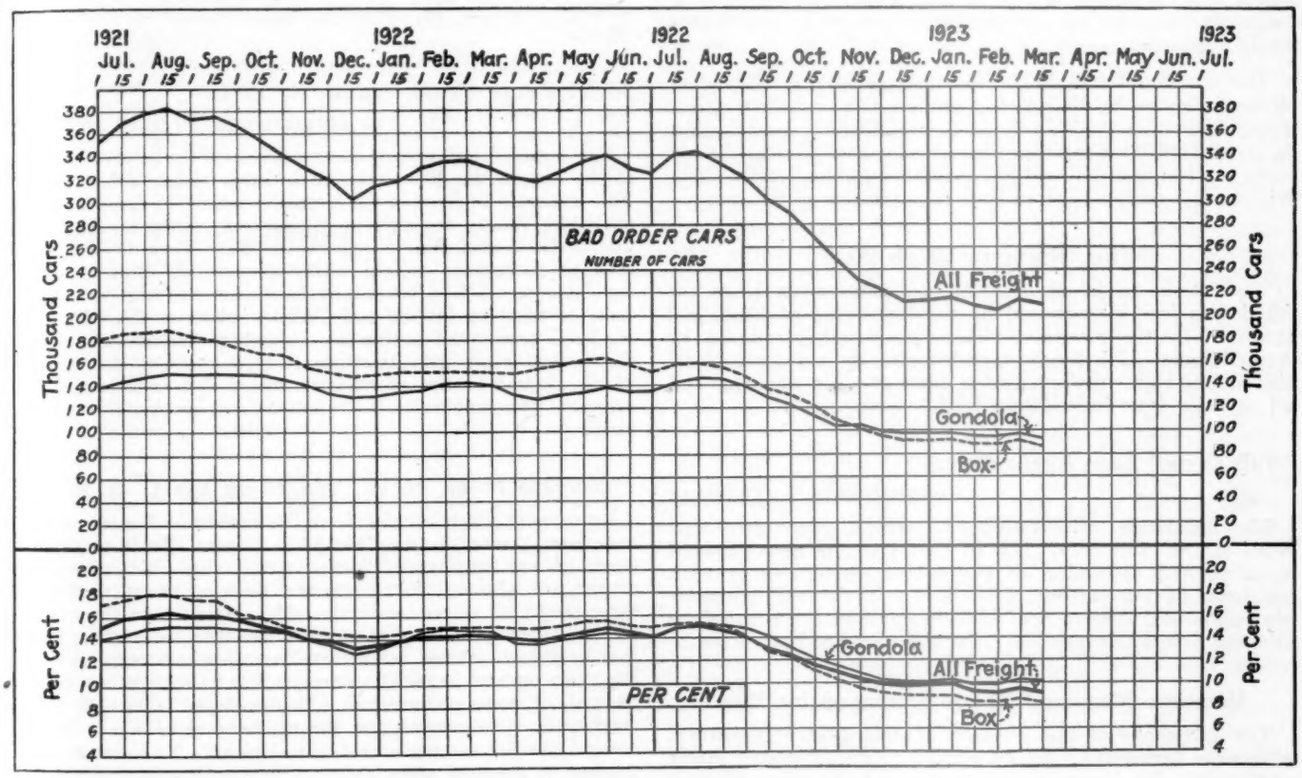
As the present report of cars awaiting repairs includes some cars that will not be repaired, but are held awaiting opportune time for retirement, it was recommended that they be eliminated entirely from the report and deducted from the ownership, or shown as a separate item, so that the figures indicating the cars awaiting repairs will reflect the correct situation in that respect.

The following shows the percentage of power awaiting repairs on the dates indicated:

| | Heavy Per cent | Light Per cent | Total Per cent |
|---|---|---|---|
| January 1, 1922 | 18.7 | 5.1 | 23.8 |
| July 1, 1922 | 17.6 | 4.8 | 22.4 |
| January 1, 1923 | 21.1 | 3.0 | 24.1 |
| February 1, 1923 | 21.0 | 2.9 | 23.9 |
| March 1, 1923 | 20.8 | 3.0 | 23.8 |
| March 15, 1923 | 21.6 | 2.6 | 24.2 |

4,244 serviceable locomotives would be added to the available supply if percentage of locomotives awaiting heavy repairs were reduced to 15 per cent instead of 21.6 per cent as on March 15, 1923.

Regarding car shortage reports to the Car Service Division which do not correctly reflect the actual situation it was stated that carrying out the plan now under way for elimination of the inflation in coal mine ratings will go far toward giving a correct indication of such coal car shortage as may exist and that similar action with all classes of traffic is not only desirable but necessary. Car shortage should represent only the actual number of cars a shipper has ability to load and ship daily. The Car Service Division, through its district managers and with the assistance of shippers' committees, will endeavor to keep informed of the traffic demands in the various territories with a view of anticipating the equipment necessities in the various districts and planning in advance to meet such demands.




The Bad Order Car Situation Since July 1, 1921

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Eight Persons Were Killed and 15 or more injured when westbound passenger train No. 11, the Southwestern Limited, of the Cleveland, Cincinnati, Chicago & St. Louis, travelling at high speed, struck an automobile at a crossing near Columbus, Ohio, on March 30, derailing the locomotive and four sleeping cars. Three occupants of the automobile, the fireman, one other member of the train crew, two passengers and a trespasser were killed. Among the passengers injured was F. B. Sheldon, vice-president of the Toledo & Ohio Central.

# General News Department

**The Freight Claim Division** of the American Railway Association will hold its annual meeting at the Mount Royal hotel, Montreal, Que., May 29 to 31.

**The legislature** of the State of Kansas has defeated by a close vote the bill to remit the taxes of the Kansas City, Mexico & Orient in Kansas. A similar act in the Oklahoma legislature was passed.

**The legislatures** of Massachusetts and Pennsylvania have been spending many days in a consideration of proposed legislation, favoring, and other proposals condemning, proposed changes in the daylight saving laws. The plans of the railroads for spring and summer timetables are in consequence badly jumbled.

**The use of oil fuel** in the locomotives of the Adirondack division, required by New York State law as a precaution against forest fires, costs the New York Central $255,600 yearly, which is about $118,000 more than the probable cost of coal for the same service; and the road has asked the Public Service Commission to modify or suspend the requirements of the law.

## The "Right to Work Act"

The "Right to Work Act" is the name given to a law which has just been passed by the legislature of Utah, and approved by the governor. This was a bill introduced by Assemblyman A. J. Stookey, and it aims to guarantee to all citizens the right to work, and to prevent other workmen and all agencies from intimidating lawful workers.

## "Full Crew" Law Again Before Pennsylvania Legislature

The legislature of Pennsylvania, which, two years ago, repealed the "full crew" law of that state, is now engaged in a renewed discussion of the subject, advocates of such legislation having had bills introduced to again enact a similar provision. Business men of Philadelphia and other cities are bringing before the legislature the objections to such a law.

## Western Maryland Shops Damaged by Fire

The car shops of the Western Maryland at Hagerstown, Md., were damaged by fire on April 1 to the estimated extent of $300,000. Two large three-story brick buildings, with contents, were practically destroyed. This establishment, employing about 900 men, has been operated for the past year by the Dickson Construction & Repair Co., a contract having been made by the railroad and the construction company following a strike of railway shopmen. A public meeting was held recently in Hagerstown which was described as an observance, by the strikers, of the first anniversary of their walkout.

## Effect of Strikes in Massachusetts

The Department of Public Utilities of Massachusetts, carrying out the wishes of the Legislature, has issued its report on the unsatisfactory condition of railroad service in that state during the past six months; and the substance of it, as stated by the Boston Herald, is as follows:

"Two months ago the Great and General Court of Massachusetts solemnly directed the public utilities department to investigate the poor railroad service. The department has now reported that three factors entered into the trouble—the strike of last summer, which affected rolling stock, the heavy snow, and the poor quality of coal. And having found the cause, the department frankly admits it doesn't know what to do with it."

## Secretary Hughes Praises J. F. Stevens for Service in Asia

John F. Stevens, formerly chief engineer of the Great Northern, vice-president of the Rock Island and of the New York, New Haven & Hartford, chief engineer of the Isthmian Canal Commission, and prominent in many other engineering activities, has returned from his sojourn of over five years in Asia. For three and a half years, ending with last October, Mr. Stevens was president of the Interallied Technical Board at Harbin, Manchuria; and Charles E. Hughes, Secretary of State, has written to Mr. Stevens a letter commending in the highest terms his valuable work in the restoration of civilization in Russia and Siberia.

## N. Y. Barge Canal Wants N. Y. C. to Interchange Freight With It

One hundred and seventy-three millions is the present estimate of the cost of the New York State barge canals and terminals. This statement is given in the complaint which the Superintendent of Public Works has sent to Washington asking the Interstate Commerce Commission to require the New York Central Railroad to interchange freight with the canal at Buffalo. What the State wants is a track-interchange between the Erie Basin canal terminal at Buffalo and Buffalo industries located on the N. Y. C. tracks and on the lines of other railroads with which the Central could give connection. It is asserted that because of the refusal of the railroads to afford this interchange considerable interstate traffic is prevented from moving through the canal.

## Increase in M. of W. Wages on the C. & E. I.

Increases of wages ranging from one cent to four cents an hour have been granted by the Chicago & Eastern Illinois to maintenance of way employees. Section men in the Chicago terminal district are advanced four cents and those in the mine districts three cents; all others two cents. Men of less than six months' service will receive one cent an hour less than the others. Foremen have been granted an increase averaging two cents an hour, the exact amount in each case varying so as to tend to equalize the scale of wages of these men. Men employed in the coal chutes receive the same increases as the maintenance of way men, the amount likewise varying according to location. No increases were granted to common shop labor or to crossing watchmen. The new rates are retroactive to March 1.

## Dominion Parliament Somewhat Excited Over Grand Trunk and Canadian Northern Bonuses

The members of the Canadian Parliament at Ottawa showed great interest when one of their number brought out that the board of directors of the Grand Trunk and Canadian Northern, now absorbed by the Canadian National, voted considerable sums as bonuses to the officers of the companies, including themselves, before these roads were taken over by the government. Some of the beneficiaries, with the sums allotted to them, were said to be: D. B. Hanna, $35,000; A. J. Mitchell, $20,000; S. L. Shannon, $3,000; estate of W. H. Biggar, salary at the rate of $20,000 per annum from the time of his death, July 7, 1922, to the end of the year; Frank Scott, $31,000; R. S. Logan, $15,500; A. B. Atwater, $1,000; Howard G. Kelley, $50,000; J. E. Dalrymple, $16,500; W. D. Robb, $16,500; J. M. Rosevear, $12,000; D. E. Galloway, $9,000; W. P. Hinton, $15,000; H. H. Hansard, $7,200; S. P. Porter, $4,200; G. T. Bell, $5,000; H. C. Martin, $5,000; H. H. Norman, $12,000; H. Dear, $10,500. In addition the English board of directors of the Grand Trunk were said to have voted to each of themselves a sum equal to five years' salary.

It was pointed out that at the time these bonuses were voted the companies were under private direction and entitled to dispose of their moneys in any manner they saw fit.

## Railway Dividends Paid in 1921

A special survey of dividend distributions made by the Class 1 railroads, prepared by the Bureau of Railway Economics, shows that in 1921 dividends were declared by 71 of the Class 1 railroads, of which there are 186, leaving 115 systems which declared no dividends whatever.

The 71 companies represented 57 per cent of the outstanding capital stock, worth, at par, $4,162,700,000. The total outstanding stock of the Class 1 roads on December 31, 1921, amounted to $7,302,689,000. That portion of the capital stock upon which no dividends of any kind were paid, amounted to $3,139,989,000, or 43 per cent, of the stock outstanding. Of this non-dividend paying stock, the 115 companies that declared no dividends represented $2,499,714,000, the remaining $640,275,000 being the non-dividend paying stock of the 71 companies which declared dividends on some but not all of their outstanding capital stock.

The ordinary cash dividends declared by the 71 railway companies averaged 6.4 per cent on the outstanding stock which paid dividends and, including extra cash dividends, averaged 7.2 per cent. These same dividends represented an average rate of only 4.1 per cent on the total capital stock of Class 1 railways, including that which paid no dividends as well as that which did.

## Getting Accurate Information to the Public

That at least 90 per cent of the adverse railway legislation can be charged to the lack of understanding of the railroads and the economic laws which govern their operation, is the opinion of C. H. Markham, president of the Illinois Central, as expressed in his address before the Traffic Club of Chicago on March 29. The occasion was an open forum for the discussion of the subject on the "Need for Accurate Information for the Public Regarding the Railway Situation."

"We cannot put the blame for this," said Mr. Markham, "upon the lack of sources from which accurate information about the railroads may be procured. Every essential fact about them is a matter of public record. The carriers are being almost constantly investigated by some public or quasi-public body." Continuing, Mr. Markham calls attention to the most common instances of misrepresentation among which he cited over-capitalization as determined from the market value of stocks during periods of financial depression and the alleged guarantee clause of the Transportation Act. With respect to the dissemination of facts concerning the railroads, Mr. Markham called attention to the opportunity of utilizing the traffic officer to this end because of his intimate contact with the shippers and the public in general.

Other speakers at the meeting were Joseph H. Beek, executive secretary of the National Industrial Traffic League, who spoke on "The New Economic Heresy"; and Henry A. Palmer, editor of the Traffic World, who emphasized news value as an element to be considered in endeavoring to place facts before the public.

## The D. & H. to Celebrate Centennial

The Delaware & Hudson Company will celebrate its hundredth anniversary on April 23. A special committee is arranging a program of events to take place in Albany and New York. A New York charter was granted the Delaware & Hudson Canal Company on April 23, 1823, under which it operated until 1899, when the name was changed to the Delaware & Hudson Company. Originally the company operated a canal from Honesdale, Pa., to Rondout, N. Y. The D. & H. is the oldest existing transportation company in the Western Hemisphere.

There will be a dinner to a large number of invited guests at the Hotel Astor, New York City, on Monday evening, April 23. President L. F. Loree will be toastmaster and will make one of the principal addresses. Addresses are expected also from Governor A. E. Smith; James S. Alexander, president of the National Bank of Commerce; and Dr. H. W. Dickinson, Honorable Secretary, The Newcomen Society, Assistant to the Director, The Science Museum, London, England. At the close of the dinner a party of guests will be taken to Wilkes-Barre, Pa., over the Lehigh Valley, where on Tuesday they will visit the coal breakers. At noon on Tuesday the company will give a luncheon at Scranton to officers and veteran employees of both the railroad and coal departments of the company, and prominent residents of Scranton and vicinity. After luncheon the party will proceed by special train to Carbondale where was mined the first coal brought by the company to New York City. From Carbondale the party will go over the Honesdale branch, which follows the route of the famous old "gravity railroad" which carried the company's first coal across the divide to the Lackawaxen river, and will stand on the ground where the Stourbridge Lion, the first steam locomotive to move on rails in the western world, made its celebrated trip.

## Railway Revenues and Expenses for February

The Class I railroads in February had a net railway operating income of $38,903,000, which represented a return on an annual basis of 3.73 per cent on their tentative valuation, according to reports filed by the carriers with the Interstate Commerce Commission. The net operating income in February last year amounted to $47,727,000, which was on the basis of an annual return of 4.67 per cent. In January this year their net operating income totalled $60,654,700 or 5.54 per cent.

Operating revenues in February amounted to $446,538,000, an increase of 11.3 per cent as compared with February, 1922. Operating expenses totalled $375,707,600 or an increase of 15.8 per cent. Expenditures for maintenance of equipment amounted to $112,143,600, compared with $91,901,300 for February last year, or an increase of more than 22 per cent. While this increase was in part due to severe weather conditions which prevailed in certain parts of the country reports show that the railroads during that month repaired and turned out of their shops 34,692 locomotives, the largest number ever repaired during any corresponding period.

During the first two months this year, the net operating income of the railroads totalled $99,619,900, compared with $77,346,500 during the same months last year. On an annual basis this would represent a return of 4.66 per cent, compared with 3.69 per cent for the first two months in 1922. Operating revenues for January and February totalled $948,494,500, or an increase of 19 per cent over the same period in 1922, while operating expenses amounted to $784,280,900 or an increase of 18.5 per cent.

Class I railroads in the Eastern district had a net operating income in February of $17,248,300, which was at the rate of 4.13 per cent, as compared with 7.20 per cent last year. Operating revenues totalled $225,024,000, an increase of 10 per cent, while the operating expenses totalled $192,734,700 or an increase of 18.6 per cent.

The net operating income for the carriers in the Southern district amounted to $10,531,900, or at the rate of 6 per cent, as compared with 4.16 per cent last year. Operating revenues amounted to $63,300,000, or an increase of 19.3 per cent, while the operating expenses totalled $48,511,900, or an increase of 15 per cent.

Carriers in the Western district had a net operating income in February of $11,122,800, which would be at the rate of 2.47 per cent, compared with 2.54 per cent last year. Operating revenues totalled $158,214,000, or an increase of 10 per cent, while operating expenses amounted to $134,461,000, or an increase of 12.3 per cent.

Fifty-nine railroads in February had operating deficits, of which 26 were in the Eastern, 1 in the Southern and 32 in the Western districts. In January 48 roads had deficits.

# Meetings and Conventions

*The following list gives names of secretaries, dates of next or regular meetings and places of meetings:*

AIR BRAKE ASSOCIATION.—F. M. Nellis, 165 Broadway, New York City. Next convention, May 1-4, 1923, Hotel Albany, Denver, Colo. Exhibit by Air Brake Appliance Association.

AIR BRAKE APPLIANCE ASSOCIATION.—Louis B. Rhodes, Vapor Car Heating Company, Munsey Building, Washington, D. C. Meeting with Air Brake Association.

AMERICAN ASSOCIATION OF DINING CAR SUPERINTENDENTS.—L. A. Stone, C. & E. I. Ry., Chicago.

AMERICAN ASSOCIATION OF ENGINEERS.—C. E. Drayer, 63 E. Adams St., Chicago. Next convention, May 7-9, 1923, Norfolk, Va.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. L. Duncan, 332 So. Michigan Ave., Chicago. Next meeting, May 9, 1923, Signal Mt. Inn, Chattanooga, Tenn.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—W. C. Hope, C. R. R. of N. J., 143 Liberty St., New York.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—J. Rothschild, Room 400, Union Station, St. Louis, Mo. Next convention, June 13-15, 1923, Kansas City, Mo.

AMERICAN ELECTRIC RAILWAY ASSOCIATION.—J. W. Welsh, 8 W. 40th St., New York. Next convention, October 8-12, Atlantic City, N. J.

AMERICAN RAILROAD MASTER TINNERS', COPPERSMITHS' AND PIPE FITTERS' ASSOCIATION.—C. Borcherdt, 202 North Hamlin Ave., Chicago, Ill.

AMERICAN RAILWAY ASSOCIATION.—J. E. Fairbanks, General Secretary, 75 Church St., New York, N. Y.

Division I.—Operating, J. C. Caviston, 30 Vesey St., New York, N. Y.

Freight Station Section (including former activities of American Association of Freight Agents). R. O. Wells, Freight Agent, Illinois Central Railroad, Chicago, Ill.

Medical and Surgical Section. J. C. Caviston, 30 Vesey St., New York, N. Y.

Protective Section (including former activities of the American Railway Chief Special Agents and Chiefs of Police Association). J. C. Caviston, 30 Vesey St., New York, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York.

Telegraph and Telephone Section (including former activities of the Association of Railway Telegraph Superintendents).—W. A. Fairbanks, 30 Vesey St., New York, N. Y.

Division II.—Transportation (including former activities of the Association of Transportation and Car Accounting officers).—G. W. Covert, 431 South Dearborn St., Chicago, Ill. Annual meeting, April 25, Blackstone Hotel, Chicago.

Division III.—Traffic, J. Gottschalk, 143 Liberty St., New York.

Division IV.—Engineering, E. H. Fritch, 431 South Dearborn St., Chicago, Ill. Exhibit by National Railway Appliances Association.

Construction and Maintenance Section. E. H. Fritch.

Electrical Section.—E. H. Fritch.

Signal Section (including former activities of the Railway Signal Association).—H. S. Balliet, 30 Vesey St., New York, N. Y.

Division V.—Mechanical (including former activities of the Master Car Builders' Association and the American Railway Master Mechanics' Association).—V. R. Hawthorne, 431 South Dearborn St., Chicago, Ill. Annual meeting, beginning June 20-22, Orchestra Hotel, Chicago. No exhibit in 1923.

Equipment Painting Section (including former activities of the Master Car and Locomotive Painters' Association).—V. R. Hawthorne, 431 South Dearborn St., Chicago, Ill.

Division VI.—Purchases and Stores (including former activities of the Railway Storekeepers' Association).—W. J. Farrell, 30 Vesey St., New York, N. Y. Annual meeting, May 15-17, 1923, Chicago.

Division VII.—Freight Claims (including former activities of the Freight Claim Association).—Lewis Pilcher, 431 South Dearborn St., Chicago, Ill. Annual convention, May 29-31, Montreal, Que.

Car Service Division.—C. A. Buch, 718 18th St., N. W., Washington, D. C.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty, C. & N. W. Ry., 319 N. Waller Ave., Chicago. Next convention, October 16-18, 1923, Seattle, Wash. Exhibit by Bridge and Building Supply Men's Association.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—A. Leckie, Industrial Agent, Kansas City Southern Ry., Kansas City, Mo. Annual meeting, May 9-11, St. Louis, Mo.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—(Works in co-operation with the American Railway Association, Division IV.) E. H. Fritch, 431 South Dearborn St., Chicago. Exhibit by National Railway Appliances Association.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.—(See American Railway Association, Division V.)

AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—R. D. Fletcher, 1145 East Marquette Road, Chicago. Exhibit by Supply Association of the American Railway Tool Foremen's Association.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—T. F. Whittelsey, Union Trust Bldg., Washington, D. C. Annual meeting, May 9, Washington, D. C.

AMERICAN SOCIETY FOR STEEL TREATING.—W. H. Eisenman, 4600 Prospect Ave., Cleveland, Ohio.

AMERICAN SOCIETY FOR TESTING MATERIALS.—C. L. Warwick, 1315 Spruce St., Philadelphia, Pa. Annual meeting, June 25, Chalfonte-Haddon Hall Hotels, Atlantic City, N. J.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—Prof. J. H. Dunlap, 33 W. 39th St., New York. Regular meeting 1st and 3d Wednesdays in month, except July and August, 33 W. 39th St., New York.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Calvin W. Rice, 29 W. 39th St., New York. Railroad session at Spring meeting, May 29, Montreal, Quebec.

Railroad Division—A. E. Stuebing, Managing Editor, Railway Mechanical Engineer, Woolworth Bldg., New York.

AMERICAN TRAIN DISPATCHERS' ASSOCIATION.—C. L. Darling, 1310-1311 Mallers Bldg., Chicago, Ill. Next convention, June 18, 1923, Chicago.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—P. R. Hicks, Room 1146 Otis Bldg., Chicago. Next convention January 22-24, 1924, Kansas City, Mo.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—H. D. Morris, Northern Pacific R. R., St. Paul, Minn. Next meeting, May 16-18, 1923, Brown Palace Hotel, Denver, Col.

ASSOCIATION OF RAILWAY ELECTRICAL ENGINEERS.—Jos. A. Andreucetti, C. & N. W., Room 411, C. & N. W. Sta., Chicago. Annual convention, October. Exhibit by Railway Electrical Supply Manufacturers' Association.

ASSOCIATION OF RAILWAY EXECUTIVES.—Stanley J. Strong, 320 Munsey Bldg., Washington, D. C.

ASSOCIATION OF RAILWAY SUPPLY MEN.—A. W. Clokey, 1658 McCormick Bldg., Chicago. Meeting with International Railway General Foremen's Association.

ASSOCIATION OF RAILWAY TELEGRAPH SUPERINTENDENTS.—(See American Railway Association, Division I.)

ASSOCIATION OF TRANSPORTATION AND CAR ACCOUNTING OFFICERS.—(See American Railway Association, Division II.)

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—John Nelson, Joseph E. Nelson & Sons, 3240 South Michigan Ave., Chicago. Meeting with convention of American Railway Bridge and Building Assn.

CANADIAN RAILWAY CLUB.—W. A. Booth, 53 Rushbrook St., Montreal, Que.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Aaron Kline, 626 North Pine Ave., Chicago. Regular meetings, 2nd Monday in month, except June, July and August, Great Northern Hotel, Chicago.

CAR FOREMEN'S ASSOCIATION OF ST. LOUIS, MO.—Thomas B. Koeneke, 604 Federal Reserve Bank Bldg., St. Louis, Mo. Meetings, first Tuesday in month at the American Hotel Annex, St. Louis.

CENTRAL RAILWAY CLUB.—Harry D. Vought, 26 Cortlandt St., New York. Meetings, 2d Thursday, January to November, Hotel Iroquois, Buffalo, N. Y.

CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S ASSOCIATION.—W. P. Elliott, Terminal Railroad Association of St. Louis, East St. Louis, Ill.

CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S SUPPLY MEN'S ASSOCIATION.—D. B. Wright, 34th St. and Artesian Ave., Chicago, Ill. Meeting with Chief Interchange Car Inspectors' and Car Foremen's Association.

CINCINNATI RAILROAD CLUB.—W. C. Cooder, Union Central Bldg., Cincinnati, Ohio. Meetings, 2d Tuesday in February, May, September and November.

EASTERN RAILROAD ASSOCIATION.—E. N. Bessling, 614 F St., N. W., Washington, D. C. Annual meeting May 10, 1923, Railroad Club, New York.

FREIGHT CLAIM ASSOCIATION.—(See American Railway Association, Division VII.)

GENERAL SUPERINTENDENTS' ASSOCIATION OF CHICAGO.—C. H. Treichel, Grand Central Station, Chicago. Regular meetings, Wednesday, preceding 3d Friday in month, Room 1414 Manhattan Bldg., Chicago.

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' ASSOCIATION.—W. J. Mayer, Michigan Central R. R., Detroit, Mich. Exhibit by International Railroad Master Blacksmiths' Supply Men's Association.

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' SUPPLY MEN'S ASSOCIATION.—George P. White, 747 Railway Exchange, Chicago. Meeting with International Railroad Master Blacksmiths' Association.

INTERNATIONAL RAILWAY FUEL ASSOCIATION.—J. G. Crawford, 702 E. 51st St., Chicago. Next meeting, May 21-24, 1923, Hotel Winton, Cleveland, Ohio. Exhibit by International Railway Supply Men's Association.

INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.—Wm. Hall, 1061 W. Wabash Ave., Winona, Minn. Annual convention, September 4-7, Hotel Sherman, Chicago.

INTERNATIONAL RAILWAY SUPPLY MEN'S ASSOCIATION.—C. W. Sullivan, Garlock Packing Co., 326 W. Madison St., Chicago. Meeting with International Railway Fuel Association.

MASTER BOILER MAKERS' ASSOCIATION.—Harry D. Vought, 26 Cortlandt St., New York. Next convention, May 22-25, Hotel Tuller, Detroit, Mich.

MASTER CAR AND LOCOMOTIVE PAINTERS' ASSOCIATION.—(See A. R. A., Division V.)

MASTER CAR BUILDERS' ASSOCIATION.—(See A. R. A., Division V.)

NATIONAL ASSOCIATION OF RAILWAY TIE PRODUCERS.—J. S. Penney, T. J. Moss Tie Company, St. Louis, Mo. Next convention, January 24-25, 1924, Kansas City, Mo.

NATIONAL ASSOCIATION OF RAILWAY AND UTILITIES COMMISSIONERS.—James B. Walker, 49 Lafayette St., New York. Next convention, Dec. 4, 1923, Miami, Fla.

NATIONAL FOREIGN TRADE COUNCIL.—O. K. Davis, 1 Hanover Square, New York. Tenth convention, May 2-4, 1923, New Orleans, La.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. W. Kelly, People's Gas Bldg., Chicago. Annual exhibition at convention of American Railway Engineering Association.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, 2d Tuesday in month, excepting June, July, August and September, Copley-Plaza Hotel, Boston, Mass.

NEW YORK RAILROAD CLUB.—Harry D. Vought, 26 Cortlandt St., New York. Regular meetings, 3d Friday in month, except June, July and August, at 29 W. 39th St., New York.

PACIFIC RAILWAY CLUB.—W. S. Wollner, 64 Pine St., San Francisco, Cal. Regular meetings, 2d Thursday in month, alternately in San Francisco and Oakland.

RAILWAY ACCOUNTING OFFICERS' ASSOCIATION.—E. R. Woodson, 1116 Woodward Building, Washington, D. C. Next meeting, June 13, 1923, Richmond, Va.

RAILWAY BUSINESS ASSOCIATION.—Frank W. Noxon, 600 Liberty Bldg., Broad and Chestnut Sts., Philadelphia, Pa.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 515 Grandview Ave., Pittsburgh, Pa. Regular meetings, 4th Thursday in month, except June, July and August, Fort Hotel, Pittsburgh, Pa.

RAILWAY DEVELOPMENT ASSOCIATION.—(See Am. Ry. Development Assn.)

RAILWAY ELECTRICAL SUPPLY MANUFACTURERS' ASSOCIATION.—J. Scribner, General Electric Co., Chicago. Annual meeting with Association of Railway Electrical Engineers.

RAILWAY EQUIPMENT MANUFACTURERS' ASSOCIATION.—J. W. Fogg, Boss Nut Company, 1732 N. Kolmar Ave., Chicago. Meeting with Traveling Engineers' Association.

RAILWAY FIRE PROTECTION ASSOCIATION.—R. R. Hackett, Baltimore & Ohio R. R., Baltimore, Md.

RAILWAY REAL ESTATE ASSOCIATION.—R. H. Morrison, C. & O. Ry., Richmond, Va.

RAILWAY SIGNAL ASSOCIATION.—(See A. R. A. Division IV, Signal Section.)

RAILWAY STOREKEEPERS' ASSOCIATION.—(See A. R. A. Division VI.)

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1841 Oliver Bldg., Pittsburgh, Pa. Meeting with A. R. A., Division V. (No exhibit in 1923.)

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, 30 Church St., New York. Meets with Telegraph and Telephone Section of A. R. A., Division I.

RAILWAY TREASURY OFFICERS' ASSOCIATION.—L. W. Cox, Commercial Trust Bldg., Philadelphia, Pa.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—P. J. McAndrews, C. & N. W. Ry., Sterling, Ill. Next convention, September 18-20, 1923, Chicago. Exhibit by Track Supply Association.

ST. LOUIS RAILWAY CLUB.—B. W. Frauenthal, Union Station, St. Louis, Mo. Regular meetings, 2d Friday in month, except June, July and August.

SIGNAL APPLIANCE ASSOCIATION.—F. W. Edmunds, Sunbeam Electric Manufacturing Company, New York City. Meeting with American Railway Association, Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. J. Merrill, P. O. Box 1205 Atlanta, Ga. Regular meetings, 3d Thursday in January, March, May, July, September and November, Piedmont Hotel, Atlanta.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. L. Carrier, Car Serv. Agt., Tenn. Cent. Ry., 319 Seventh Ave., North Nashville, Tenn.

SUPPLY ASSOCIATION OF AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—H. S. White, 9 N. Jefferson St., Chicago.

TRACK SUPPLY ASSOCIATION.—W. C. Kidd, Ramapo-Ajax Corporation, Hillburn, N. Y. Meets with Roadmasters' and Maintenance of Way Association.

TRAVELING ENGINEERS' ASSOCIATION.—W. O. Thompson, 1177 East 98th St., Cleveland, Ohio. Annual meeting, September, 1923, Chicago. Exhibit by Railway Equipment Manufacturers' Association.

WESTERN RAILWAY CLUB.—Bruce V. Crandall, 605 North Michigan Ave., Chicago. Regular meetings, 3d Monday each month, except June, July and August.

# Traffic News

The Interstate Commerce Commission has denied the application of the Fort Smith & Western for exemption from its order requiring the sale of reduced fare scrip coupon tickets.

The Freight Claim Division of the American Railway Association is distributing copies of an article by C. A. Plaskett, engineer in forest products, Forest Products Laboratory, U. S. Department of Agriculture, Madison, Wis., which shows how boxes may be made more serviceable and practically pilfer-proof by the addition of metal straps without extra expense to the shipper and frequently at a saving in the cost of lumber. An illustrated bulletin reproducing Forest Products Laboratory technical note No. 183, containing rules and a chart showing how box strapping should be applied will soon be distributed.

### Injunction Against Fare Reduction Asked For

Proceedings for an injunction against the enforcement of the Interstate Commerce Commission's order for the introduction of interchangeable mileage tickets on May 1 were begun in the Federal Court at Boston on March 31 before Judge Morton. Fifty railroads joined in the petition; and they say that the proposed 20 per cent reduction in fares would cause them a loss of $30,000,000 a year. The order of notice issued by the court is returnable April 6.

### Chicago Traffic Club

At the annual meeting of the Chicago Traffic Club on March 27, E. K. Fleming, general agent of the Chicago, Burlington & Quincy, was elected president; George A. Blair, general traffic manager of Wilson & Company, was elected first vice-president; Fred A. Butterworth, assistant general freight agent of the Pere Marquette, was elected second vice-president; J. H. Beek, executive secretary of the National Industrial Traffic League, was elected third vice-president; E. S. Buckmaster of the American Railway Express Company, was elected secretary and R. J. Wallace, traffic manager of the Jaques Manufacturing Company, was elected treasurer. The directors elected for two years were: J. A. Brough, traffic manager of the Crane Company; J. D. McDonald, general passenger agent of the Grand Trunk; J. D. Roth, Western freight traffic manager of the International Mercantile Marine Company; W. H. DeWitt, Jr., general traffic manager of the Western Electric Company; R. B. Robertson, assistant freight traffic manager of the Union Pacific; J. F. Coykendall, treasurer of the Chicago Great Western; B. S. Garvey, vice-president of the Illinois Bell Telephone Company and H. H. Basscom, traffic manager of the Steel & Tube Company of America.

### Freight Commodity Statistics, Fourth Quarter, 1922

The Interstate Commerce Commission has issued a statement showing by districts the freight tonnage transported by Class I railways for the quarter ended December 31, 1922. The comparison for the whole country, by general classes of commodities, with the year previous, is as follows:

| | Number of tons originated | | |
|---|---|---|---|
| Class | Quarter ended December 31, 1921 | Quarter ended December 31, 1922 | Per cent of increase 1922 over 1921 |
| Products of agriculture | 34,683,765 | 37,914,729 | 9.32 |
| Animals and products | 6,667,199 | 7,728,548 | 15.92 |
| Products of mines | 131,224,680 | 171,355,343 | 30.58 |
| Products of forests | 19,217,118 | 24,476,431 | 27.37 |
| Manufactures and miscellaneous | 44,261,526 | 60,238,381 | 36.10 |
| Merchandise (all l.c.l. traffic) | 10,434,701 | 11,320,231 | 8.49 |
| Total | 246,488,989 | 313,033,663 | 27.00 |
| | Total tons carried | | |
| Products of agriculture | 65,329,281 | 71,745,348 | 9.82 |
| Animals and products | 11,415,526 | 13,147,521 | 15.17 |
| Products of mines | 230,489,472 | 294,132,201 | 27.61 |
| Products of forests | 38,956,504 | 48,088,260 | 23.44 |
| Manufactures and miscellaneous | 86,119,951 | 117,537,366 | 36.48 |
| Merchandise (all l.c.l. traffic) | 17,062,045 | 18,930,486 | 10.95 |
| Total | 449,372,779 | 563,581,182 | 25.42 |

# Commission and Court News

## Interstate Commerce Commission

The Interstate Commerce Commission has made public a proposed report of Attorney Examiner Gerry recommending a dismissal of the complaint in the port differential case instituted by the Maritime Association of the Boston Chamber of Commerce, with which were consolidated two other cases. The report recommends a finding that the class and commodity rates on import and export traffic between Boston, Fall River and New Bedford, Mass.; New London, Conn.; Portland, Me., and Providence, R. I., on the one hand and that portion of central territory known as differential territory on the other, be found not unreasonable or unduly preferential, and that export rates on ex-lake grain and grain products other than flour milled from ex-lake wheat be found not unreasonable or unduly preferential.

## State Commissions

The Public Utility Commission of New Jersey has ordered the Erie Railroad to install automatic wig-wag and audible automatic signals at two crossings near Caldwell, N. J.

## Supreme Court of the United States

### Stopping of Interstate Passenger Train Held Burden on Interstate Commerce

The Supreme Court of the United States has reversed the judgment of the Supreme Court of Missouri sustaining the order of the Missouri Public Service Commission requiring the stopping of St. Louis-San Francisco southbound passenger train No. 105 and northbound No. 106 at Mountain Grove. The decision is based on the opinion that the order would impose an undue burden on interstate commerce. The trains "are operated in long-distance traffic, are the instruments of such traffic, and it is a part of their efficiency that they are run at night. They may be a facility, in some degree to Mountain Grove. It is to be remembered, however, that the city has four other through interstate passenger trains and any deficiency in their schedules or equipment can be corrected without burdening interstate commerce by stopping the trains in question."—St. Louis-San Francisco v. Public Service Commission. Decided March 19, 1923. Opinion by Justice McKenna.

### Claim Under Dent Act for "Extraordinary Expenses" Disallowed

The Supreme Court of the United States has affirmed the judgment of the Court of Claims (56 Ct. Cls. 377) dismissing the petition of the Baltimore & Ohio for "extraordinary expenses," amounting to $85,474 in constructing the branch to the Ordnance Depot at Curtis Bay, Maryland, under an "informal or implied agreement" with officers of the War Department for reimbursement of such expenses. The Supreme Court holds that the mere fact that the railroad, at the urgent insistence of the War Department to hasten construction, substituted the cost plus plan of construction for the unit price plan, "without any notice to the Department of its intention so to do, or of the increased expenses that would result, does not, in the absence of any intimation that it would look to the United States for reimbursement of such increased expenses or of any suggestion by the Department that such reimbursement would be made, afford any substantial basis upon which an agreement for the payment of such expenses can be implied," under the Dent Act, March 2, 1919. Baltimore & Ohio v. United States. Decided March 19, 1923. Opinion by Justice Sanford.

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A SPEED OF 233.87 MILES AN HOUR is the record of a flight of one kilometer, in a Curtiss aeroplane on the course at Wilbur Wright Field, Dayton, Ohio, on March 26, by Lieutenant R. L. Maughan.

# Equipment and Supplies

## Locomotives

THE BETHLEHEM STEEL COMPANY is inquiring for 3, 0-8-0 type switching locomotives.

THE MISSOURI PACIFIC is inquiring for 20 Mikado type locomotives, 5 Mountain type and 10 switching type locomotives.

THE WABASH has ordered 30 Mikado type locomotives and 20 switching type locomotives from the American Locomotive Company.

THE MINNESOTA TRANSFER, reported in the *Railway Age* of January 27 as inquiring for 2, 8-wheel switching locomotives, has ordered this equipment from the Baldwin Locomotive Works.

THE BELT RAILWAY OF CHICAGO, reported in the *Railway Age* of March 10 as inquiring for 5, 8-wheel switching locomotives, has ordered 5 locomotives from the Baldwin Locomotive Works.

## Freight Cars

THE UNITED STATES FUEL COMPANY, Chicago, is inquiring for 500 hopper cars of 70 tons' capacity.

THE SOUTHERN PACIFIC has ordered 350 steel ballast cars for 1923 delivery from the Mount Vernon Car Manufacturing Company.

THE STUDEBAKER CORPORATION, reported in the *Railway Age* of March 17 as inquiring for six flat-bottom gondola cars, has withdrawn its inquiry.

THE KANSAS, OKLAHOMA & GULF, reported in the *Railway Age* of January 20 as inquiring for 400 gondola cars and 100 gondola car bodies, has withdrawn its inquiry.

THE HOCKING VALLEY is asking for bids until 12 o'clock noon April 12, at Richmond, Va., for 2,000 steel frame single sheathed automobile box cars of 40 tons' capacity.

THE DENVER & RIO GRANDE WESTERN, reported in the *Railway Age* of December 23 as inquiring for 100 narrow gage stock cars, will build this equipment in its own shops.

THE BALTIMORE & OHIO, reported in the *Railway Age* of March 17 as inquiring for bids on new car bodies or rebuilding 1,000 coke cars, will rebuild this equipment in its own shops.

THE FRUIT GROWERS EXPRESS will build 2,000 refrigerator cars in its own shops. Contracts for the steel underframes for these cars were let recently as was reported in the *Railway Age* of March 17.

THE DULUTH, MISSABE & NORTHERN, reported in the *Railway Age* of February 10 as inquiring for 100 box cars, has ordered 100 steel box cars of 50 tons' capacity from the American Car & Foundry Company.

THE EMMONS COAL MINING COMPANY, Philadelphia, Pa., reported in the *Railway Age* of March 10 as inquiring for 500 hopper cars, has ordered 500 hopper cars of 70 tons' capacity from the American Car & Foundry Company.

THE FORD MOTOR COMPANY is inquiring for from 1,000 to 3,000 automobile box cars of 40 tons' capacity. This company, reported in the *Railway Age* of March 10 as inquiring for 50 gondola cars, has ordered 25 steel gondola cars of 70 tons' capacity from the Standard Steel Car Company.

THE ILLINOIS CENTRAL, reported in the *Railway Age* of March 24 as contemplating coming into the market for freight car repairs, will have 1,000 gondola cars and 600, 40-ton box cars repaired by the Ryan Car Company; 800, 50-ton box cars, and 600, 40-ton box cars repaired by the American Car & Foundry Company; orders for repairs to 300, 36-ft. box cars, 100 steel box cars, and 150 automobile box cars will be placed this week.

## Passenger Cars

THE SEABOARD AIR LINE is inquiring for four baggage and mail cars.

THE AKRON, CANTON & YOUNGSTOWN is inquiring for two passenger, mail and baggage cars.

THE ATCHISON, TOPEKA & SANTA FE is having three business cars built by the Pullman Company.

THE LOUISVILLE & NASHVILLE, reported in the *Railway Age* of March 17 as inquiring for 10 combination baggage and mail cars, 10 coaches, 5 middle room smoking coaches, 14 baggage cars, all to be 70 ft. long; also for 5 coaches 61 ft. long, 5 middle room smoking coaches 61 ft. long and 2 dining cars, has ordered 14 baggage cars and 10 combination baggage and mail cars 70 ft. long from the Pressed Steel Car Company and has ordered all the other cars from the American Car & Foundry Company, except 10 coaches, the purchase of the latter is still under consideration.

## Iron and Steel

THE CHESAPEAKE & OHIO has received bids for 3,500 tons of plate girders.

THE DELAWARE, LACKAWANNA & WESTERN has received bids for 1,000 tons of bridge steel.

## Machinery and Tools

THE ILLINOIS CENTRAL has ordered one 150-ton wrecking crane from the Industrial Works.

THE CENTRAL OF GEORGIA has ordered one 150-ton wrecking crane from the Industrial Works.

THE CHICAGO & NORTH WESTERN has ordered two electric turntable tractors from the Whiting Corporation.

THE ATCHISON, TOPEKA & SANTA FE is inquiring for one 14-in., plain head turret lathe and one 20-in. drill press.

THE MAINE CENTRAL has placed orders for 2, 5-ft. radial drills, 2 bushing presses, a 36-in. planer; also some other tools.

THE NORFOLK & WESTERN has placed orders for a car wheel borer, an axle lathe, a wheel press, a 36-in. planer; also for a number of other tools.

THE SOUTHERN RAILWAY is inquiring for a number of machine tools including: 10-ft. bending rolls, engine lathe, 20-in. drill press, turret lathe and driving wheel lathe.

THE CANADIAN NATIONAL will replace existing machinery at its Transcona, Man., shops and make additions thereto during the current year, and also at its Fort Rouge, Man., shops.

THE CHICAGO, ROCK ISLAND & PACIFIC is inquiring for one two-inch, double head bolt cutter, one 84-in. guide bar drilling machine, one 36-in. drill press, one portable milling machine and one combination boring and mortising machine.

## Miscellaneous

THE DETROIT & MACKINAC will receive bids until April 15 for 40,000 beech, birch, ash, maple, elm or oak sawed ties of three grades f. o. b. cars, at any point on its line.

THE NEW YORK CENTRAL will receive bids until 12 o'clock noon on April 9, 1923, for steel wheels required by the following companies: New York Central; Michigan Central; Cleveland, Cincinnati, Chicago & St. Louis; Pittsburgh & Lake Erie and the Indiana Harbor Belt.

THE NORFOLK & WESTERN received bids until 12 o'clock noon April 4 at Roanoke, Va., for its requirements of brake shoes and its requirements of couplers and repair parts from April 1 to June 30, also for 8,000 switch plates, 700 sheets planished jacket steel and 50 cast steel side frames. Bids are also wanted until 12 o'clock noon April 11, for 400 cast steel truck side frames.

# Supply Trade News

The **General Electric Company** will build a five-story building at Third and Antoinette streets, Detroit, to be used for general mechanical and operating service.

Fred **W. Stubbs,** whose appointment as mechanical engineer of the **Standard Stoker Company** with headquarters at Erie, Pa., has been announced in the *Railway Age*, was born in Western Pennsylvania and received his technical training at Case School of Applied Science, Cleveland, O. He served as machinist's apprentice from 1887 to 1888 on the Union Pacific and then to September, 1891, at the Brooks Locomotive Company, Dunkirk, N. Y. From June, 1896, to November, 1898, he was with various contracting companies in Cleveland as a draftsman and subsequently served as draftsman with the Brooks and the American Locomotive Companies and the New York Air Brake Company. In September, 1904, he went with the Industrial Works, Bay City, Mich., and in May, 1905, went to the Wellman-Seaver-Morgan Company. He later served with the Bartlett & Snow Company and the American Machine Company. In May, 1906, he was appointed leading locomotive man in the mechanical engineer's office of the Lake Shore & Michigan Southern. From April, 1911, to January, 1923, he was mechanical engineer of the Chicago Great Western at Oelwein, Iowa. He also served as a member of the Iowa Board of Examining Engineers, resigning as chairman of the board to go to the Standard Stoker Company.

F. W. Stubbs

**Carl H. Peterson** has been appointed Eastern sales representative of the **Standard Stoker Company,** with headquarters at 5054 Grand Central Terminal, New York City. He served from 1892 to 1904 as engineering representative at Chicago for the Safety Car Heating & Lighting Co., and with the Pressed Steel Car Company in the engineering and sales departments from 1904 to 1905, at Chicago. From 1905 to 1919, he was with the Baldwin Locomotive Works and Standard Steel Works Company as assistant manager at Chicago, Southwestern representative at St. Louis and Western representative at Chicago. Since 1919 Mr. Peterson has been engaged in consulting work, specializing along sales engineering and production lines.

C. H. Peterson

**Paul Llewellyn,** vice-president and general sales manager of the bar division of the **Interstate Iron & Steel Company,** with headquarters at Chicago, has been promoted to vice-president in charge of all sales, with the same headquarters, and will be succeeded by **H. F. Schroeder,** representative at New York.

**E. W. Stone,** signal foreman on the Southern Pacific at Oakland, Cal., has been appointed construction engineer of the **National Safety Appliance Company,** with headquarters at Chicago.

**Charles B. Yardley,** who formerly represented **Jenkins Brothers,** New York, with all railroads in its New York distributing district, will again become railroad representative for the same district.

**W. H. Marshall,** chairman of the board of the **Consolidated Machine Tool Corporation of America,** New York, has been elected president, to fill the vacancy caused by the sudden death of C. K. Lassiter on March 3.

**J. E. Johnson,** manager of the Pittsburgh, Pa., branch of the **Garlock Packing Company,** Palmyra, N. Y., has been appointed general sales manager with headquarters at Palmyra, succeeding John N. Todd, resigned.

**H. E. Reynolds** has been appointed district manager of the Pittsburgh, Pa., office at 1222 Fulton building of the **Whiting Corporation,** to succeed **S. C. Wilson** who has entered the employ of the **Hockensmith Wheel & Mine Car Company** at Penn, Pa.

**O. L. Chapman** and **W. H. Chapman,** formerly with the Davis Boring Tool Company, St. Louis, have been appointed secretary and treasurer, respectively, of the **Firmhill Machine Supply Company,** Detroit, Mich., succeeding C. C. Firmin, who is no longer identified with the company.

**The Cutler-Hammer Manufacturing Company,** Milwaukee, Wis., on May 1, will remove its Pittsburgh, Pa., office of the Central district from the Farmers Bank building to rooms 950 to 953 Century building, on Seventh street between Penn avenue and Duquesne way. **A. G. Pierce** is manager of the Central district, with headquarters in Pittsburgh.

**C. F. Shadle,** of the Shadle Automatic Train Signal-Stop Company has severed all connections with that company and with the Cincinnati, Indianapolis & Western railroad. Mr. Shadle has been appointed chief engineer of the **Indiana Equipment Corporation** and is the designer of the train control device being manufactured by this company.

**The Jones & Laughlin Steel Corporation** has work under way on an extension of the south power station at its Aliquippa works near Woodlawn, Pa. The construction has been started by Dwight P. Robinson & Co., Inc., New York. The improvement includes preparation of site, foundations and condenser well, and the erection of an extension to the building to house a 10,000 k. w. steam generator unit with condenser and all other appurtenances.

**The Service Motors, Incorporated,** a new Delaware corporation, has taken over the business of the Service Motor Truck Company, Wabash, Ind., and will continue to build service motor trucks and service railroad motor coaches. **Paul Moore,** Wabash, Ind., is president and general manager of the new company; **C. W. Folds,** Chicago, vice-preident; **Charles Guernsey,** Wabash, vice-president; **G. L. Gillam,** Wabash, vice-president, and **E. L. Mock,** Wabash, secretary-treasurer.

## Obituary

**J. J. Griffin,** local auditor of the American Car & Foundry Company with headquarters at Chicago, died on April 2 from pernicious anemia.

**George Adam Weber,** a director of the Rail Joint Company, New York, died at his home in Pasadena, Cal., on March 29, at the age of 75. Mr. Weber was one of the organizers of the Weber Rail Joint Manufacturnig Company which was one of the companies consolidated in 1905 to form the present Rail Joint Company.

# Railway Construction

ARKANSAS SHORT LINE.—This company has applied to the Interstate Commerce Commission for authority for the construction of a line from McCormick to McDonald, Ark., 32.6 miles.

ATCHISON, TOPEKA & SANTA FE.—This company will construct an icing dock 1,000 ft. long and will extend its yard tracks at Glendale, Ariz. The cost of the project will be approximately $50,000. This company also contemplates the construction of a new line between Corona, Cal., and Elsinore.

ATCHISON, TOPEKA & SANTA FE.—This company has authorized the construction of 13 miles of second track from Mission, Kans., to Burton.

ATLANTIC COAST LINE.—This company will spend $26,000,000 on new facilities and equipment, of which the latter will require about $10,000,000. A second main track will be provided, giving the company a double track line from Richmond, Va., to Jacksonville, Fla. Automatic signals and several new interlocking plants will be provided on this line. Additional yard tracks and sidings will be built on practically every division. Shop facilities will be increased and equipment added to at a number of places, including Wilmington and Rocky Mount, N. C., and Montgomery, Ala. Improvements will be made in station facilities, 30,000 tons of 100 lb. rail will be laid and grades will be reduced in a number of places.

CENTRAL PACIFIC.—This company has applied to the Interstate Commerce Commission for a certificate authorizing the construction of the proposed Natron cut-off from Oakridge to Kirk, Ore., 118 miles, as an alternative line shorter than the existing line between Springfield Junction, Ore., and Weed, Calif. The directors of the Southern Pacific had promised to build this line if authorized to retain control of the Central Pacific.

ILLINOIS CENTRAL.—This company will close bids on April 12 for the construction of a water treating plant at Clinton, Ill. The company will construct two 100,000 gal. capacity water tanks and will lay 12,500 ft. of 10-in. pipe at Crystal Springs, Miss., with Company forces.

KANSAS CITY NORTHWESTERN.—This company plans the construction of a new line from Virginia, Neb., to Lincoln, a distance of approximately 20 miles. Efforts are now being made to finance the project.

NORTHERN PACIFIC.—This company has applied to the Interstate Commerce Commission for authority to construct a branch line of 30 miles in Rosebud county, Montana.

ST. PAUL UNION DEPOT COMPANY.—This company has awarded a contract to Foley Brothers, St. Paul, for the construction of the third stage of its union station project which will include two additional stub tracks and four through station tracks, the extension of the waiting room over these tracks and the completion of the station facilities below them and the construction of a retaining wall on the west side of the tracks between Sibley and Mississippi streets.

## The Canadian National's Program for 1923

Construction work to be undertaken by the Candian National Railways in 1923 was outlined by George P. Graham, Acting Minister of Railways and Canals, before the House of Commons in Ottawa on March 27. Some of the more important items follow:

CANADIAN GOVERNMENT RAILWAYS, Eastern Lines: Installation of telephone train dispatching between Campbellton, N. B., and Mont Joli, P. Q.; completion of work on gage standardization between Summerside and Tignish P. E. I.

CANADIAN GOVERNMENT RAILWAYS, Western Lines: Extension and rearrangement of trackage at Redditt, Ont., providing a 300-ton mechanical coaling plant, sand house, depressed cinder pit and a new turntable of greater length; replacement of 854-ft. frame trestle with concrete culvert and fill at Mile 46.7 on the Quibell, Ont., subdivision.

CANADIAN NORTHERN, Eastern Lines: Installation of an interlocking plant at Harrowsmith, Ont.; construction of a 5-stall extension to the enginehouse at Capreol, Ont.; installation of additional equipment at Leaside, Ont., locomotive and car shops and provision of heating, lighting and shelving in stores section; provision of a scrap reclaiming building and plant at Toronto; replacing 222-ft. pile trestle with concrete and steel bridge at Indian river, Pembroke subdivision; replacing 555-ft. timber trestle with concrete culvert and fill at Mile 110, Ruel subdivision; replacing 180-ft. timber trestle with concrete abutments and steel span at Midway creek, Ruel subdivision; replacing 240-ft. timber trestle with steel span, concrete abutments and fill at Muskego river, Oba subdivision; replacing 283-ft. timber trestle with steel span, concrete abutments and fill at Opishkanogama river, Oba subdivision; continuation of replacement of 1,300-ft. trestle across Kiosk-Koqui lake, North Bay subdivision.

CANADIAN NORTHERN, Western Lines: Revision of line between Mile 48 and Mile 50, Kashabowie subdivision; extension and rearrangement of yards at Brandon, Sask.; provision of a water supply reservoir at Kipling, Sask.; construction of a highway subway at Moose Jaw, Sask.; provision of water supply at Avonlea, Sask.; construction of a freight shed at Dauphin, Man.; completion of the rearrangement of the yards at Humboldt, Sask., and erection of coal dock, sand house, ash pits and sewer lines; revision of alinement between Horburg, Alta., and Saunders; provision of telephone train dispatching between Yorath, Sask., and Kindersley, North Battleford and Saskatoon, Saskatoon and Yorath Junction, and Humboldt and Saskatoon; provision of additional buildings and facilities at Jasper Park Summer Resort; filling trestles on various subdivisions.

GRAND TRUNK PACIFIC: Completion of freight car repair shops at North Edmonton Terminals; provision of a 600-ft. snowshed at Mile 1,075.5, Tete Jaune subdivision; filling trestles on various subdivisions; provision of stores building and locomotive foreman's office at Rivers, Man.; provision of oil handling facilities at Smithers, B. C., and Prince George; acquisition of and improvements to Minaki Inn; improvements to Fort Garry Hotel, Winnipeg, and MacDonald Hotel, Edmonton.

HALIFAX & SOUTH WESTERN: Replacement of 257-ft. timber trestle by concrete culvert and fill at Puddle river, Chester subdivision.

HUDSON BAY RAILWAY: Provision of a two-stall enginehouse at the Pas and general improvements to roadbed and track.

In the work of co-ordinating the various railways making up the system, the following improvements have been authorized:

EASTERN LINES: Installation of two additional signals and a low voltage junction switch machine at Chaudiers, P. Q.; provision of track connections at Joffre, P. Q.; completion of terminal facilities, rearrangement of yards at Quebec; provision of additional yard trackage at Limoilou, P. Q.; double tracking on St. Charles river bridge and approaches thereto between Lemoilou and Parent Square, Quebec; construction of a 6-mile connection between the C. G. R. near Dombourg, P. Q., and the C. N. R. at Donnacona with a view to the abandonment of 25.7 miles of Canadian Northern line between Donnacona and Allenby Junction; completion of connection between C. N. R. and G. T. P. and improvement of water supply at Hawkesbury, Ont.; completion of connection between G. T. R. and C. N. R., track alterations and new joint station at Napanee, Ont.

WESTERN LINES: Completion of initial development of yard and engine facilities at Neebing, Ont.; provision of track connection at Joffre, P. Q.; completion of double tracking from Port Arthur, Ont., to Kakabeka Falls; provision of additional sidings between Kakabeka Falls and Mokomon and installation of automatic signals; double tracking on 0.5 per cent grade from Mile 32 to Mile 35.6, Kashabowie subdivision; completion of grade and alinement revision at Rowan, Alta., on the Kashabowie subdivision; rearrangement of trackage at Portage la Prairie, Man., to provide double track through the town and eliminate an interlocking plant; provisions of water supply at Lampman to serve the C. N. R. and the G. T. P.; completion of connection between G. T. P. and C. N. R. at Regina, Sask., and co-ordination of engine facilities at the G. T. P. terminal and improvement of local freight facilities; construction of connections between G. T. P. and C. P. R. at Saskatoon, Sask., and between G. T. P. and C. N. R. at Ryley, Alta., and provision of automatic signals; completion of installation of automatic signals for co-ordinating connections constructed at Alix, Alta., during 1921 and 1922; completion of the south connection between C. N. R. and G. T. P. at Camrose, Alta., and provision of automatic signals and siding extensions; completion of interlocking plant at North Edmonton; provision of automatic signals for connection between the C. N. R. and G. T. P. at Magnolia, Alta.; consolidation of G. T. P. terminal facilities at Jasper, Alta., with C. N. R. terminal facilities at Lucerne, B. C., involving the construction of a 7-stall extension to the enginehouse, a coaling plant and sand house, ashpit, additional yard tracks, housing developments for employees and coach, water and steam lines.

The company has awarded contracts for grading, bridging and culverts on its Long Lake cut-off in Northwestern Ontario. This cut-off is a connection between the company's two transcontinental lines which will make possible the utilization for through business of the shorter part of both routes, reducing materially the distance between Winnipeg and the East on this company's lines.

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THE AVERAGE mileage per freight car per day for the month of January this year on all Class I railroads was 25.8, which exceeds the average for January in any year since these statistics were first published in monthly reports, in 1917. For last year the average was 20.4. For January, 1917, it was 25.3. The average tonnage per car for the month was 29. This was exceeded in January, 1921, when the average was 30.1 and was equalled in January, 1919.

# Railway Financial News

CHESAPEAKE & OHIO.—*Equipment Trusts Sold.*—J. P. Morgan & Co. announces that a new issue of $7,875,000 5 per cent equipment trust certificates, series U, offered at prices to yield 5.30 per cent, has been oversubscribed. The certificates are dated March 15, 1923 and mature serially, $525,000 per annum, from March 15, 1924 to March 15, 1938. The proceeds will be used in the purchase of new equipment to cost $9,844,825, of which $1,969,825 is to be paid in cash. The issuance of these certificates is subject to authorization by the Interstate Commerce Commission.

CINCINNATI, NEW ORLEANS & TEXAS PACIFIC.—*Equipment Trusts Authorized.*—The Interstate Commerce Commission has given this company permission to assume obligations and liability as to $2,700,000 of 5 per cent equipment trust certificates sold to J. P. Morgan & Co., New York, at 97 and interest, and the proceeds applied to the purchase of 1,865 coal cars and one dining car at a cost of $3,430,490. The certificates will be dated April 2, and will mature in 15 equal annual installments of $180,000 each, the first to be payable April 1, 1924.

KANSAS CITY SOUTHERN.—*Annual Statement for 1922.*—A preliminary report of the operations of the Kansas City Southern for 1922 contains the following income account:

| | 1922 | 1921 |
|---|---|---|
| Operating Revenues: | | |
| Freight | $16,336,125 | $17,674,400 |
| Passenger | 2,201,624 | 2,477,395 |
| Gross revenues (inc. other) | 20,361,180 | 21,768,140 |
| Operating Expenses: | | |
| Maintenance of way and structures | 2,562,346 | 3,033,548 |
| Maintenance of equipment | 4,100,872 | 3,899,867 |
| Traffic | 502,350 | 520,000 |
| Transportation | 7,023,099 | 7,673,981 |
| General | 902,220 | 991,033 |
| Total operating expenses | 15,083,460 | 16,103,992 |
| Net revenue from railway operations | 5,277,720 | 5,664,148 |
| Taxes | 1,315,676 | 1,072,693 |
| Total operating income | 3,956,520 | 4,756,043 |
| Total non-operating income | 391,714 | 405,596 |
| Gross income | 4,348,234 | 5,161,638 |
| Total deductions from gross income | 2,761,703 | 2,728,633 |
| Net income | 1,586,531 | 2,433,005 |
| Dividends on preferred stock | 840,000 | 840,000 |
| Income balance | 746,531 | 1,593,005 |

MAINE CENTRAL.—*Asks Authority for Equipment Trust.*—This company has applied to the Interstate Commerce Commission for authority for an issue of $1,200,000 of 5½ per cent equipment trust certificates to be sold to Kidder, Peabody & Co., at 99¼.

MINARETS & WESTERN.—*Authority Granted to Issue Securities.*—This company has been authorized by the California Railroad Commission to execute a mortgage or deed of trust for $2,500,000, and to issue a like amount of first mortgage six per cent serial gold bonds to the Sugar Pine Lumber Company, trustee. The applicant is engaged in the business of transporting logs to the mill of the Sugar Pine Lumber Company, near Fresno, Cal., and the transportation of lumber products from the mill to a connection with the Southern Pacific. The funds obtained from the sale of these bonds will be used to defray the cost of construction of this railroad.

MISSOURI-KANSAS-TEXAS.—*Receivership terminated.*—The receivership of the Missouri, Kansas & Texas and the Missouri, Kansas & Texas Railway of Texas, with the exception of the line from Coalgate, Okla., to Oklahoma City, ended on April 1. The reorganized corporation will be known as the Missouri-Kansas-Texas Railroad Company with general offices in St. Louis, Mo., as heretofore. The officers and employees under the receivership will also remain in their respective positions. The line from Coalgate, Okla., to Oklahoma City will be operated under C. E. Schaff, as receiver. The receivership of the Wichita Falls & Northwestern, a subsidiary company, ended at the same time.

NORFOLK & WESTERN.—*Equipment Trust Authorized.*—This company has been authorized by the Interstate Commerce Commission to assume obligation and liability in respect of $8,000,000 of equipment trust certificates to be sold at not less than 95.5.

NORTHWESTERN RAILROAD OF SOUTH CAROLINA.—*Six Months' Guaranty Certified.*—The payment of $15,186 to this company to make good the guaranty has been certified to the Treasury by the Interstate Commerce Commission.

PERE MARQUETTE.—*Authorized to Issue Bonds.*—This company has been authorized by the Interstate Commerce Commission to sell $12,826,000 of first mortgage 5 per cent gold bonds at not less than 91 and to pledge and repledge from time to time $9,595,000 of bonds as collateral for short term notes.

SOUTHERN RAILWAY.—*Equipment Trusts Authorized.*—This company has been authorized by the Interstate Commerce Commission to guarantee $6,750,000 of 5 per cent equipment trust certificates, to be sold at not less than 97 to Drexel & Co., Philadelphia, and the proceeds applied to the purchase of 62 locomotives, 2,470 freight cars and 3 dining cars estimated to cost $8,444,988, under a lease from Edward T. Stotesbury. The certificates will be dated April 2 and will be payable in 30 equal semi-annual installments of $225,000 each, payable October 1 and April 1.

SOUTHERN PACIFIC.—*New Director.*—W. A. Worthington, of Montclair, N. J., has been elected a director to succeed Robert Goelet, of Chester, N. Y.

ST. LOUIS, EL RENO & WESTERN.—*Authorized to Abandon Line.*—This company has been authorized by the Interstate Commerce Commission to abandon as to interstate and foreign commerce its line from Guthrie to El Reno, Okla., 42.2 miles.

ST. LOUIS-SAN FRANCISCO.—*Authorized to Issue Bonds.*—The Interstate Commerce Commission has authorized this company to issue $2,548,900 of prior lien mortgage bonds, series B, and $3,095,800 of prior lien mortgage bonds, series D. The carrier, in its application filed December 9, 1922, asked authority to issue and sell or pledge $5,644,700 of its prior lien mortgage 5½ per cent gold bonds, series D. The two issues authorized by the commission total the same amount. In the same application the Frisco also asked authority to issue and sell or pledge $1,047,900 of its adjustment mortgage 6 per cent gold bonds, series A. No mention is made of this proposed issue in the commission's statement, which is the preliminary announcement.

## Tentative Valuations

Tentative valuations of $1,874,816 have been placed on the used property of the Hartford Eastern Railway; and $3,404,900 on the owned and used property of the Nevada Northern, as of June 30, 1917.

## Railroad Administration Settlements

The Railroad Administration has reported final settlement of claims arising out of federal control by payment of $210,000 to the American Refrigerator Transit Company; $65,000 to the Detroit & Toledo Short Line; $1,000 to the Gulf Ports Terminal Railway; and $2,360 to the Waynesburg & Washington Railroad. The two last named roads are short lines.

The Railroad Administration has received $1,250,000 from the Minneapolis & St. Louis and $250,000 from the Grand Trunk Railway of Canada in final settlement of claims.

## Dividends Declared

Atchison, Topeka & Santa Fe.—Common, $1.50, quarterly, payable June 1 to holders of record May 4.

Delaware, Lackawanna & Western.—3 per cent, quarterly, payable April 20 to holders of record April 7.

New York Central.—1¼ per cent, quarterly, payable May 1 to holders of record April 6.

Norfolk & Western.—Preferred, 1 per cent, quarterly, payable May 19 to holders of record April 30.

Pittsburgh & West Virginia.—Preferred, $1.50, quarterly, payable May 31 to holders of record May 9.

## Trend of Railway Stock and Bond Prices

| | April 3 | Last Week | Last Year |
|---|---|---|---|
| Average price of 20 representative railway stocks | 66.00 | 67.28 | 62.03 |
| Average price of 20 representative railway bonds | 82.18 | 82.06 | 83.83 |

# Annual Report

## Thirty-Eighth Annual Report of the Buffalo, Rochester & Pittsburgh Railway Company

The Directors of the Buffalo, Rochester and Pittsburgh Railway Company submit to the Stockholders the following report for the year ending December 31, 1922.

### ROAD OPERATED

| | 1922 Miles | 1921 Miles | Increase |
|---|---|---|---|
| Owned | 368.31 | 368.31 | |
| Leased | 90.30 | 90.30 | |
| Trackage rights | 131.11 | 131.11 | |
| Total length of road operated | 589.72 | 589.72 | |
| Second track | 212.59 | 212.59 | |
| Sidings | 458.83 | 455.36 | 3.47 |
| Total miles of all tracks, all steel rail | 1,261.14 | 1,257.67 | 3.47 |

There was no change in the mileage of road operated. The tracks were increased by 3.47 miles of new sidings.

### INCOME

| Operating Income | 1922 | 1921 | Increase |
|---|---|---|---|
| Revenues | $16,746,506.17 | $14,362,406.74 | $2,384,099.43 |
| Expenses | 16,332,659.39 | 13,836,205.06 | 2,496,454.33 |
| Net revenue | $413,846.78 | $526,201.68 | —$112,354.90 |
| Tax accruals | 367,015.86 | 339,300.00 | 27,715.86 |
| Uncollectible revenues | 4,787.84 | 1,222.59 | 3,565.25 |
| | $371,803.70 | $340,522.59 | $31,281.11 |
| Total operating income | $42,043.08 | $185,679.09 | —$143,636.01 |
| Non-Operating Income | | | |
| Rental—Guaranty Period. | 61,093.21 | 75,321.54 | —14,228.33 |
| Other items | 1,108,206.84 | 1,099,608.59 | $8,598.25 |
| | $1,169,300.05 | $1,174,930.13 | —$5,630.08 |
| Gross income | $1,211,343.13 | $1,360,609.22 | —$149,266.09 |
| Deduction for interest, rentals, etc. | 2,402,508.32 | 2,307,206.92 | $95,301.40 |
| Net income | Def. $1,191,165.19 | Def. $946,597.70 | —$244,567.49 |
| Appropriations | | | |
| Pension and fire insurance funds | | 18,910.58 | —18,910.58 |
| Surplus available for dividends | Def. $1,191,165.19 | Def. $965,508.28 | —$225,656.91 |
| Return on capital stock | Loss 7.22% | Loss 5.85% | —1.37% |

Taxes advanced 8.17% to $367,015.86, due to higher assessments on real estate in New York, and revised Federal income and excess profits items of past years.

A final settlement with the U. S. Government for balance due on guaranteed net railway operating income for period from March 1st to August 31st, 1920, was effected April 25, 1922, and the amount, $61,093.21, credited to Non-operating Income.

The operations for the year resulted in a deficit, due to a serious decline in tonnage caused by the practical suspension of coal mining in Central Pennsylvania for five months, combined with the strike of the shopmen.

### DIVIDENDS

Dividends, out of the accumulated surplus in Profit and Loss Account, were paid in cash on:

| | | | 1922 | | 1921 |
|---|---|---|---|---|---|
| Preferred stock | $6,000,000 | 6% | $360,000 | 6% | $360,000 |
| Common stock | 10,500,000 | 4% | 420,000 | 4% | 420,000 |
| Total | $16,500,000 | | $780,000 | | $780,000 |

Since the close of the fiscal year your Board of Directors has declared semi-annual dividends of three per cent. on the preferred stock and two per cent. on the common stock, payable February 15th, 1923.

### CAPITAL STOCK

There has been no change during the year in this account. The total outstanding capital stock of the Company amounts to $16,500,000 and consists of $6,000,000 preferred stock and of $10,500,000 common stock.

### FUNDED DEBT.

With the approval of all governmental authorities and in accordance with the provisions of the Consolidated Mortgage of 1907, the trustee delivered to the Company during the year $4,269,000 Consolidated 4½% mortgage bonds, which were all placed in the Treasury.

Upon further authority of the Interstate Commerce Commission, a part of the total bonds in the Treasury were sold for coporate purposes, as follows:

| | | |
|---|---|---|
| To reimburse the Treasury for payments made for improvements and betterments | | $500,000 |
| For the following underlying bonds retired: | | |
| Rochester & Pittsburgh R. R. Co consolidated 6% bonds (in part) | | 1,760,000 |
| Equipment agreement 4½% Series A bonds (in full) | | 500,000 |
| Equipment agreement 4½% Series B bonds (in full) | | 1,000,000 |
| To apply toward 50% of the following equipment bonds retired: | | |
| $434,000 Series D 4½% bonds | | 217,000 |
| 614,000 Series E 4½% bonds | | 307,000 |
| 432,000 Series F 4½% bonds | | 216,000 |
| Total bonds sold during the year | | $4,500,000 |

The following bonds were retired during the year:

| | | |
|---|---|---|
| Rochester & Pittsburgh R. R. Co. 1st mortgage 6% | $3,830,000 | |
| Equipment agreement Series E | $323,000 | |
| Equipment agreement Series F | 176,000 | |
| Equipment agreement Series G | 180,000 | |
| Equipment agreement Series H | 125,000 | |
| Equipment agreement Series J | 90,000 | |
| Equipment agreement Series K | 80,000 | |
| Equipment agreement Series 10 | 133,600 | 1,107,600 |
| Total | | $4,937,600 |

The net result is a decrease of $437,600.00 in the funded debt of the Company.

The bonds in the Treasury, pledged and unpledged, now amount to $3,850,000.

### COST OF ROAD

Capital account was charged during the year with $525,971.63 for investment in road as follows:

| | |
|---|---|
| Subway, Brown St., Rochester, N. Y. | $15,014.09 |
| Elimination of grade crossing, Carrollton, N. Y. | 6,004.55 |
| Elimination of grade crossing, Indiana, Pa. | 2,362.93 |
| Siding facilities, Wheatland, N. Y. | 20,286.84 |
| Siding facilities, Le Roy, N. Y. | 93,807.53 |
| Yard facilities, Buffalo Creek, N. Y. | 35,982.94 |
| Other sidings, yard extensions, etc. | 20,463.20 |
| Steel water tanks, Du Bois, Pa. | 9,878.77 |
| New bridge, Josephine, Pa. | 19,302.93 |
| New bridge, Kent, Pa. | 7,206.42 |
| Increased weight of rail, etc. | 84,784.79 |
| Increased ballast, etc. | 50,496.67 |
| New Shop machinery and tools | 44,349.36 |
| New roadway machines and tools | 9,430.88 |
| Equipment of division office, Punxsutawney, Pa. | 7,061.24 |
| Mechanical coal and sand handling plant, Rikers, Pa. | 53,237.71 |
| Miscellaneous | 46,300.78 |
| Total | $525,971.63 |

Practically all the work undertaken this year was completed and paid for. The policy of strengthening steel bridges, replacing timber bridges, trestles and culverts in permanent form, and the general improvement of the road with stone ballast and heavier type of rail, in abeyance for several years past, was reinstated and will be continued during the coming year.

### COST OF EQUIPMENT

| | | |
|---|---|---|
| Expenditures were made for additions to equipment as follows: | | |
| Ten miscellaneous cars, auto trucks, etc., purchased | | $8,887.16 |
| Sundry betterments, including reclassification of four freight train cars | | 12,666.01 |
| Total | | $21,553.17 |
| There was credited for equipment sold, transferred or destroyed the following book values, a part of which, less salvage, was charged to Operating Expenses, and the balance, representing the depreciation since June 30, 1907, was charged to Depreciation account: | | |
| Five locomotives | $71,377.48 | |
| Two hundred and sixty-three freight train cars | 160,521.14 | |
| Five work equipment cars | 2,805.50 | |
| Two miscellaneous cars | 951.37 | 235,655.49 |
| Making a net decrease of | | $214,102.32 |

The total tractive power of engines now aggregates 13,522,696 pounds, a decrease of 165,407 pounds during the year.

The average tractive power of each engine increased 230 pounds, being 46,630 pounds as against 46,400 pounds a year ago.

The total carrying capacity of cars in freight service now amounts to 727,382 net tons, a decrease of 9,873.

The average carrying capacity or efficiency of each freight car increased .17 tons, being 44.37 tons as against 44.20 tons last year.

Of the cars in passenger service 48.35 per cent. are of all steel construction, and in the freight service 96.74 per cent. of the cars are all steel, or are equipped with steel underframes.

The following table indicates the relative changes in equipment for the past ten years.

| | Tractive power of engines in pounds | | Capacity of cars in freight service in tons of 2,000 pounds | |
|---|---|---|---|---|
| | Average of each engine. | Aggregate tractive power. | Average for each car. | Aggregate capacity. |
| 1913 | 34,017 | 9,932,893 | 41.26 | 708,813 |
| 1914 | 34,782 | 10,643,255 | 42.29 | 737,498 |
| 1915 | 35,999 | 11,627,535 | 43.19 | 751,531 |
| 1916 | 36,257 | 11,493,536 | 43.25 | 750,847 |
| 1917 | 39,060 | 12,773,410 | 43.37 | 737,327 |
| 1918 | 43,312 | 16,025,362 | 43.94 | 777,657 |
| 1919 | 44,100 | 15,346,830 | 43.97 | 771,541 |
| 1920 | 45,630 | 14,281,845 | 44.12 | 748,215 |
| 1921 | 46,400 | 13,688,103 | 44.20 | 737,255 |
| 1922 | 46,630 | 13,522,696 | 44.37 | 727,382 |
| Increase over 1913. | 12,613 | 3,589,803 | 3.11 | 18,569 |
| Per cent. | 37.1 | 36.1 | 7.5 | 2.6 |

Contracts have been entered into for the purchase of thirty locomotives to be delivered next summer, of which five are for passenger service, and twenty-five for freight and switching service; also for sixteen all steel passenger service cars, fifty steel frame caboose cars, twenty-five extension side air dump cars, and sundry other work equipment cars.

### PASSENGER REVENUES.

The gross passenger revenue amounted to $1,652,355.05, a decrease of 7.95 per cent. or $142,572.19 over the same period in 1921, a result due to the prolonged strike of the miners adversely affecting the entire business of the coal producing territory.

The average rate received per passenger per mile decreased .062 cent, being 3.279 cents as compared with 3.341 the preceding year.

The average distance each passenger was carried increased 1.5 miles, being 29.6 miles against 28.1 miles.

| | | |
|---|---|---|
| Passengers carried in 1922 | 1,704,172 | |
| Passengers carried in 1921 | 1,913,670 | |
| A decrease of 10.95 per cent., or | | 209,498 |
| Passengers carried one mile in 1922 | 50,389,629 | |
| Passengers carried one mile in 1921 | 53,730,699 | |
| A decrease of 6.22 per cent., or | | 3,341,070 |

## FREIGHT REVENUES.

The gross freight revenue amounted to $14,366,438.15, an increase of $2,438,286.28 or 20.44%.

A general reduction of ten per cent. in all freight rates was made July 1, excepting on farm products upon which the reduction was effective January 1. Also beginning April your Company's proportion of revenue in common with other carriers, was shrunk on all traffic excepting coal and coke destined to New England points, in order to meet a 15% increase in revenues ordered by the Interstate Commerce Commission to the roads in that territory. A conservative estimate indicates that these reductions decreased your revenue for the year about $430,000.00.

The average rate received per ton mile decreased .087 cents, being .965 cents as compared with 1.052 cents for the same period in 1921.

The average distance each ton was handled increased 1.90 miles, being 153.41 miles, against 151.51 miles last year.

The revenue tonnage moved was as follows:

| | 1922. | 1921. | Increase. |
|---|---|---|---|
| Bituminous coal | 5,568,494 | 3,854,947 | 1,713,547 |
| Coke | 176,422 | 154,388 | 22,034 |
| Iron ore | 159,492 | 99,727 | 59,765 |
| Pig and bloom iron | 129,675 | 94,177 | 35,498 |
| Other freight | 3,680,971 | 3,300,670 | 380,301 |
| Total | 9,715,054 | 7,503,909 | |
| An increase of 29.47% or | | | 2,211,145 |
| Tons moved one mile in 1922 | | | 1,490,400,252 |
| Tons moved one mile in 1921 | | | 1,136,943,603 |
| An increase of 31.09% or | | | 353,456,649 |

Pending an adjustment of the miners' wage scale the principal collieries shipping over your line were idle nearly five months, from April 1st to August 23rd. In spite of this suspension the revenue coal tonnage shows an increase over the preceding year. The coal tonnage handled, however, was 50% less than normal.

All of the other general commodities show increases excepting Salt, and Products of Agriculture.

The average number of revenue tons carried one mile per revenue freight train mile, excluding the mileage of helping engines, increased 35.80 tons being 789.95 tons against 754.15 tons a year ago.

The average number of revenue tons carried one mile per revenue freight engine mile, including the mileage of helping engines, increased 14.75 miles, being 534.32 miles against 519.57 miles a year ago.

The averages for the past ten years are as follows:

| | Train load. | Engine load. |
|---|---|---|
| Year ended June 30, 1913 | 710 | 462 |
| 1914 | 694 | 454 |
| 1915 | 707 | 477 |
| 1916 | 786 | 502 |
| Six months ending December 31, 1916 | 792 | 510 |
| Year ending December 31, 1917 | 836 | 545 |
| 1918 | 943 | 602 |
| 1919 | 884 | 586 |
| 1920 | 943 | 602 |
| 1921 | 754 | 520 |
| 1922 | 790 | 534 |
| Increase over 1913 | 80 | 72 |
| Per cent. | 11.3 | 15.6 |

The non-revenue freight traffic, not included in any other figures of this report, is as follows:

| | 1922. | 1921. |
|---|---|---|
| Number of tons | 921,452 | 655,524 |
| Number of tons carried one mile | 88,224,802 | 59,251,341 |

## EXPENSES.

Operating expenses increased $2,496,454.33 or 18.04%, in which each primary account participated, as follows:

| | Increase. | Decrease. | Per cent. |
|---|---|---|---|
| Maintenance of way | $417,418.79 | | 21.14 |
| Maintenance of equipment | 1,596,537.79 | | 32.53 |
| Traffic | 22,214.59 | | 10.33 |
| Transportation | 486,997.01 | | 7.82 |
| Miscellaneous operations | | $1,905.72 | 6.33 |
| General | | 11,309.18 | 2.33 |
| Transportation for investment, Cr. | | 13,498.95 | 107.15 |
| Total | $2,496,454.33 | | 18.04 |

More than one half of the total increase in expenses was due to continued effort to restore the Company's equipment to its former efficient standard. In addition to the work done in your shops, 1850 steel hopper coal cars were repaired by outside shops, and arrangements made for the repairs of 691 additional cars to be completed during the next three months.

The shop craft forces were on a strike from July 1 until September 16, being unwilling until the latter date to accept the scale of wages authorized by the U. S. Labor Board, reducing former rates of pay seven to nine cents per hour. This caused extraordinary expenses in the enlisting of new men during the strike to maintain the motive power for necessary operation of trains, and the cost of abnormal forces later to catch up with deferred maintenance.

The locomotives are now fully rehabilitated as regards the effects of Federal control and strike conditions. Under the present program the car equipment will also be in good serviceable condition at the end of the next six months.

Some progress was made by the Maintenance of Way Department to catch up with the deferred maintenance of past years, and the work will be pressed vigorously during the coming year in an effort to bring the property up to the former satisfactory standard.

The increase in Transportation expenses was due to the increased traffic moved.

The percentage of each group of operating expenses to the operating revenue for the past six years is as follows:

| | 1922. | 1921. | 1920. | 1919. | 1918. | 1917. |
|---|---|---|---|---|---|---|
| Maint. of way | 14.28 | 13.75 | 16.58 | 16.95 | 15.28 | 9.71 |
| Maint. of equipment | 38.85 | 34.18 | 31.05 | 37.73 | 32.29 | 27.00 |
| Traffic | 1.42 | 1.50 | 1.03 | 1.26 | 1.02 | 1.28 |
| Transportation | 40.07 | 43.33 | 45.98 | 48.73 | 44.26 | 38.82 |
| Misc. operations | .17 | .21 | .17 | .20 | .14 | .14 |
| General | 2.83 | 3.38 | 2.46 | 2.82 | 2.13 | 2.37 |
| Transp. for Inv., Cr. | .09 | .01 | .06 | .... | .... | .... |
| | 97.53 | 96.34 | 97.21 | 107.69 | 95.12 | 79.32 |

The average cost per ton per mile is .912 cents, a decrease of .089 cents from last year.

## PENSIONS.

The pension system was inaugurated on July 1, 1903. At present the total number of pensioners on the rolls is 99, and the pensions paid during the year amounted to $56,712.93, an increase of 11 pensioners and $8,737.18 in the payments made compared with 1921.

The statistics for the past five years are as follows:

| | 1922. | 1921. | 1920. | 1919. | 1918. |
|---|---|---|---|---|---|
| Total number enrolled | 196 | 177 | 159 | 142 | 131 |
| Number deceased or discontinued | 97 | 89 | 79 | 70 | 63 |
| Number on roll | 99 | 88 | 80 | 72 | 68 |
| Amount paid | $56,712.93 | $47,975.75 | $39,585.84 | $33,224.46 | $31,452.66 |

## GENERAL REMARKS.

The valuation of your lines by the Interstate Commerce Commission began July 1, 1917, and is now approaching the final stages. The preliminary accounting, land and engineering reports were received and exceptions promptly filed to correct errors therein. The amount expended by your Company to date on valuation has reached $229,784.17.

In accordance with the orders of the Interstate Commerce Commission dated February 4 and March 16, 1922, in the matter of the recovery and payment of excess railway operating income under Section 15 A of the Interstate Commerce Act, your Company filed reports for the four months ended December 31, 1920, and for the calendar year 1921, indicating no excess for accounting with the Government.

The acknowledgments of the Board are renewed to its officers and loyal employes for their faithful and efficient service.

By order of the Board,

WILLIAM T. NOONAN,
President.

Rochester, N. Y., March 27, 1923.

## PROFIT AND LOSS ACCOUNT.

December 31, 1922.

| CREDIT. | | |
|---|---|---|
| Balance Surplus December 31, 1921 | | $6,228,880.63 |
| Unrefundable overcharges | | 2,317.80 |
| Donations | | 34.65 |
| Miscellaneous Credits— | | |
| Discount on funded debt retired | $2,169.37 | |
| Unclaimed wages, checks and vouchers | 2,835.70 | |
| Profit on sale of Liberty bonds | 4,998.95 | |
| Sundry items | 420.34 | 10,424.36 |
| Total | | $6,241,657.44 |

| DEBIT. | | | |
|---|---|---|---|
| Debit Balance transferred from Income Account | | | $1,191,165.19 |
| Dividend appropriation of surplus— | | | |
| Preferred stock— | | | |
| (No. 57) 3% on $6,000,000, paid February 15, 1922 | | $180,000.00 | |
| (No. 58) 3% on $6,000,000, paid August 15, 1922 | | 180,000.00 | |
| Common stock— | | | |
| (No. 44) 2% on $10,500,000, paid February 15, 1922 | | 210,000.00 | |
| (No. 45) 2% on $10,500,000, paid August 15, 1922 | | 210,000.00 | 780,000.00 |
| Surplus appropriated for investment in physical property | | | 34.65 |
| Debt discount extinguished through surplus | | | 242,508.27 |
| Loss on retired road and equipment | | | 19,960.01 |
| Miscellaneous Debits— | | | |
| Loss on abandoned projects | $568.59 | | |
| Loss on sale of U. S. Treasury notes | 1,604.60 | | |
| Premium paid on funded debt retired | 1,303.02 | | |
| Amounts chargeable to final settlement with U. S. R. R. Administration | 1,211.06 | | |
| Sundry items | 754.93 | 5,541.70 | 2,239,209.82 |
| Balance Surplus December 31, 1922 | | | $4,002,447.62 |
| Balance Surplus December 31, 1922 | | | 4,002,447.62 |

[ADVERTISEMENT]

# Railway Officers

## Executive

**C. R. McDonald** has been appointed assistant to the executive vice-president of the Missouri-Kansas-Texas with headquarters at St. Louis, Mo.

**E. A. Hilleary,** freight traffic manager of the Philadelphia & Reading, has been promoted to vice-president in charge of freight traffic, succeeding R. L. Russell, deceased. Mr. Hilleary was born on September 10, 1877, at Petersville, Md., and was educated at St. John College, Annapolis, Md. He entered railway service in 1897 as a clerk for the Philadelphia & Reading. In June, 1905, he was appointed agent for the Central Station Despatch at Philadelphia. A short time thereafter he was appointed division freight agent of the Philadelphia & Reading at Philadelphia and in February, 1910, was transferred in a similar capacity to Harrisburg, Pa. In December, 1918, to February, 1920, he was assistant general freight agent at Philadelphia. He was then appointed general freight agent and in April, 1921, was promoted to freight traffic manager in which position he was serving at the time of his recent appointment.

E. A. Hilleary

**D. E. Galloway,** whose appointment as chief assistant to the president of the Canadian National with headquarters at Montreal was announced in the *Railway Age* of March 24, page 841, was born on August 31, 1882, in Crieff township, Puslinch, Ont. He was educated in the public and high schools and business college at Guelph and Hamilton, Ont., and entered railway service in February, 1901, in the claims department of the Grand Trunk at Hamilton. A short time thereafter he was transferred to Montreal and in 1902 was appointed secretary to the general freight agent. From September, 1904, to October, 1911, he served as private secretary to C. M. Hays, then president of the Grand Trunk. He was then appointed assistant to the president and served in that capacity until the amalgamation of the Grand Trunk and the Canadian National when he became chief assistant to the president of the latter company.

D. E. Galloway

**F. W. Leamy** has been appointed assistant to the president of the Delaware & Hudson with headquarters at New York succeeding W. B. Chofield, resigned.

**J. H. Foster,** general superintendent of the Northern district of the Chicago, Milwaukee & St. Paul, with headquarters at Minneapolis, Minn., has been promoted to resident assistant to the vice-presidents of the operating and traffic departments, with the same headquarters.

**P. J. Schardt** has been appointed assistant to the vice-president in charge of mail traffic of the Southern with headquarters at Washington, D. C., succeeding Alexander Grant, deceased.

**M. C. M. Hatch,** mechanical engineer of the Missouri-Kansas-Texas with headquarters at Parsons, Kansas, has been promoted to assistant to the executive vice-president with headquarters at St. Louis, Mo.

**L. C. Fritch,** vice-president in charge of construction, maintenance and capital expenditures of the Chicago, Rock Island & Pacific, with headquarters at Chicago, has been appointed vice-president and general manager in charge of operation, construction, maintenance and capital expenditures, with the same headquarters, succeeding T. H. Beacom, who has resigned.

**R. C. Watkins,** whose promotion to vice-president and general manager of the Southern Pacific Lines in Louisiana, was reported in the *Railway Age* of March 10, was born on September 18, 1874, in Lowndes county, Ala. He received his education at the Agricultural and Mining College of Texas and entered railway service on September 18, 1895, as a section laborer and trackwalker on the west Texas lines of the Galveston, Harrisburg & San Antonio. He was transferred to the engineering department as a rodman in April, 1896, and served in this capacity until November, 1896, when he was transferred to the track department as a student foreman in the Houston yards of the Texas & New Orleans. In February, 1897, he received a leave of absence from the Southern Pacific to become engineer for the Juarez Construction Company in Mexico, and in that capacity had charge of the construction of a part of the line of the Rio Grande, Sierra Madre & Pacific in the state of Chihuahua. At the end of his leave of absence, Mr. Watkins assumed charge of the grade elevation work on the Galveston, Harrisburg & San Antonio in the Rio Grande valley near El Paso and was subsequently transferred to the Louisiana lines as engineer in charge of the construction on branch lines. He was promoted to acting division engineer at San Antonio, Tex., in 1900, and after serving in this capacity for several months was appointed office engineer, with headquarters at Houston, Tex. He was promoted to right-of-way agent of the Louisiana lines on January 1, 1904, which position he held until January 1, 1913, when he was promoted to acting division superintendent of the Houston division, with headquarters at San Antonio, Tex. He was promoted to division superintendent on July 1 of the same year. During the period of Federal control he served as corporate maintenance engineer on the Louisiana lines and upon the termination of Federal control continued in that capacity, preparing the claims against the Director General of Railroads for the Southern Pacific. He was serving in this capacity on March 1, 1923, when he was promoted to vice-president and general manager of the Louisiana lines.

R. C. Watkins

## Operating

**L. E. Mansfield** has been appointed assistant trainmaster of the South Carolina division of the Seaboard Air Line with headquarters at Jacksonville, Fla. **L. F. Branan** has been appointed chief dispatcher with the same headquarters.

**F. Price** has been appointed chief of car service and **J. P. Driscoll** chief of car accounts of the Canadian National with headquarters at Montreal.

**E. R. Hamilton** has been appointed assistant trainmaster of the Port Reading Railroad with headquarters at Port Reading, N. J., succeeding J. A. Kimball, assigned to other duties.

**J. J. Pelley,** whose promotion to general manager of the Illinois Central, with headquarters at Chicago, was reported in the *Railway Age* of March 31, was born on May 1, 1878, at Anna, Ill. He entered railway service in 1900, as a track apprentice on the Carbondale division of the Illinois Central. He was promoted to supervisor on the Indiana division in 1904, and a year later was transferred to the Memphis division. He was promoted to roadmaster of the Louisiana division in 1908, and served in this capacity until 1911, when he was transferred to the Tennessee division. Mr. Pelley was promoted to superintendent of the same division in 1912, and three years later was transferred to the Memphis division. He was promoted to general superintendent of the Southern lines, with headquarters at New Orleans, La., in 1917, and continued in this capacity until 1919, when he was transferred to the Northern lines, with headquarters at Chicago. In 1920, he withdrew temporarily from the service of the Illinois Central to take up work with the car service division of the American Railway Association at Chicago and at the time of his promotion to general manager of the Illinois Central he was serving as chairman of the Chicago car service committee and manager of the refrigerator car section of the car service division.

J. J. Pelley

**O. H. Page** has been appointed general superintendent of the Atlantic Coast Line with headquarters at Jacksonville, Fla., succeeding **J. C. Murchison,** who has been granted a leave of absence. **J. P. Walker** has been appointed superintendent of transportation with the same headquarters. **O. P. Waring** has been appointed superintendent with headquarters at Charleston, S. C. **J. A. Wall** has been appointed to a similar position at Waycross, Ga., and **D. C. McLeod** has been appointed trainmaster at the same point.

## Traffic

**James C. Gross** has been appointed assistant general freight agent of the Buffalo, Rochester & Pittsburgh with headquarters at Pittsburgh, Pa. **J. A. Fullerton** has been appointed commercial freight agent at Buffalo, N. Y., and **Wm. A. Clemens** to a similar position at Chicago.

The following appointments have been made in the freight traffic department of the Philadelphia & Reading: **Harry C. Stauffer,** freight traffic manager; **John W. Hewitt,** assistant freight traffic manager; **Richard C. Campbell,** general freight agent; **Charles C. Rambo,** general coal freight agent; **William B. Gheen,** coal freight agent. All of these officers will be located at Philadelphia.

**C. W. Andrews,** general agent of the Chicago, Burlington & Quincy, with headquarters at Indianapolis, Ind., has been transferred to Dallas, Tex., succeeding **C. J. Rohwitz,** whose promotion to general passenger agent was reported to the *Railway Age* of March 31. **F. L. Gannaway** has been appointed general agent, with headquarters at Indianapolis, Ind., succeeding Mr. Andrews.

The following appointments have been made in the freight traffic department of the Canadian Pacific: **W. M. Kirkpatrick,** foreign freight traffic manager, Montreal; **W. T. Marlow,** general foreign freight agent (Atlantic services), Montreal; **F. H. Clendenning,** foreign freight agent, Vancouver; **George C. Dew,** Asiatic freight agent, Montreal; **J. J. Morton,** foreign freight agent, New York; **J. A. Morice,** foreign freight agent, Toronto; **J. R. Clancy,** assistant foreign freight agent, Toronto; **S. C. Hurkett,** assistant foreign freight agent, Montreal; **A. J. Fleming,** assistant foreign freight agent, Montreal; **W. I. Chudleigh,** import freight agent, Chicago; **J. G. Weihofen,** export freight agent, Chicago.

**Edward C. Elliott,** whose appointment as general passenger agent of the Canadian National with headquarters at Montreal was announced in the *Railway Age* of March 17, page 792, was born in Montreal on October 12, 1877, and was educated at commercial colleges in that city. He entered railway service in June, 1894, as a junior clerk in the employ of the Grand Trunk. In 1898 he was appointed clerk and in 1902 became a rate clerk. Five years later he was promoted to excursion clerk. In 1913 he was appointed chief clerk to the general passenger agent. The following year he became chief clerk to the passenger traffic manager and in February, 1920, was advanced to district passenger agent in which capacity he was serving at the time of his appointment with the Canadian National.

## Engineering, Maintenance of Way and Signaling

**H. R. Leonard,** engineer of bridges and buildings of the Pennsylvania, has been appointed to the newly created position of chief engineer of bridges and buildings with headquarters at Philadelphia. **Robert Farnham,** assistant engineer of bridges and buildings succeeds Mr. Leonard. **James F. Leonard,** assistant engineer of bridges at Pittsburgh, Pa., has been appointed engineer of bridges and buildings with the same headquarters.

**W. A. Duff** has been appointed engineer of standards of the Canadian National with headquarters at Montreal. Mr. Duff was born on April 20, 1877, and was educated at Toronto University. He entered railway service in 1907 as chief draftsman in the bridge department of the National Transcontinental Railway at Ottawa and the following year was promoted to assistant bridge engineer. In 1913 he was appointed engineer of bridges of the Canadian Government Railways with headquarters at Moncton, N. B. In 1916 he was promoted to assistant chief engineer in addition to his duties as engineer of bridges. In 1921 he was appointed engineer of standards of the Canadian National and has now been appointed to a similar position with the same road in the reorganization made necessary by the absorption of the Grand Trunk.

W. A. Duff

The following appointments have been made under the jurisdiction of the chief engineer, operating department, of the Canadian National, all with headquarters at Montreal: **M. S. Blaiklock,** assistant chief engineer; **Col. C. N. Monsarrat,** consulting engineer; **R. G. Gage,** electrical engineer; **W. M. Punter,** signal engineer; **W. A. Duff,** engineer of standards; **J. A. Ellis,** assistant engineer of roadway standards; **R. O. Stewart,** assistant engineer of bridge standards; **R. M. Mitchell,** general right of way agent; **Col. F. F. Clarke,** chief land surveyor.

## Mechanical

**C. A. Kimmel** has been appointed terminal master mechanic of the Union Pacific at Pocatello, Idaho.

**Alfred E. Calkins** has been appointed superintendent of rolling stock of the New York Central Lines, Buffalo and East, with headquarters at New York.

**W. J. Hill** has been appointed supervisor of work equipment of the Atchison, Topeka & Santa Fe, Eastern lines, with headquarters at Topeka, Kan., succeeding C. A. Braillier, who has been assigned to other duties.

## Special

**Holcombe Parkes,** associate editor of the *Railway Age*, who has also been associated with the Western Presidents' Committee on Public Relations and the Association of Railway Executives at Chicago, has been appointed editor of the Norfolk & Western Magazine, a new monthly publication of the Norfolk & Western, with headquarters at Roanoke, Va. Mr. Parkes was born on March 14, 1892, at Mt. Vernon, Ill., and received his education in the school of journalism at the University of Illinois. During his college course he was employed by the Pullman Company, in various capacities at different times. He was engaged for a time as a reporter for the Champaign Daily News of Champaign, Ill., and upon leaving the university was appointed wire editor for the Associated Press at Chicago. He was subsequently promoted to bureau manager and correspondent at Green Bay, Wis., and left this service on July 1, 1918, to become associate editor of the *Railway Age* at Chicago. He continued in this capacity as news and labor editor until 1921, when he also became associated with the Western Presidents' Committee on Public Relations and the Association of Railway Executives. Mr. Parkes was serving in this capacity at the time of his recent appointment as editor of the Norfolk & Western Magazine.

H. Parkes

# Obituary

**E. D. Sewall,** vice-president of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, died in that city on March 30. Mr. Sewall was born at Wilmington, Del., and received his education at an academy in that city. He entered railway service in the engineering department of the Northern Pacific and prior to July, 1881, was engaged in engineering work on that road, the Chicago & Canada Southern, the St. Paul, Minneapolis & Manitoba and the St. Paul & Duluth. He was appointed assistant engineer of the St. Paul & Duluth in July, 1881, and held this position until September, 1882, when he was appointed joint agent of the St. Paul & Duluth and the Chicago, Milwaukee & St. Paul, at Stillwater, Minn. He served in this capacity until May, 1888, when he was appointed traveling lumber agent. He was promoted to commercial agent, with headquarters at St. Paul, Minn., in December, 1889, which position he held until March, 1895, at which time he was promoted to assistant general freight agent of the Superior division, with headquarters at Milwaukee, Wis. He was promoted to general northwestern agent, with headquarters at Minneapolis, Minn., in March, 1898, and continued in this position until May, 1902, when he was promoted to assistant general superintendent, with the same headquarters. On June 1, 1906, he was promoted to assistant to the president, with headquarters at Chicago, and on January 23, 1913, was elected vice-president, with the same headquarters. Mr. Sewall, at the time of his death, was also vice-president and controller of the Chicago Union Station Company and president of the Chicago, Milwaukee & St. Paul Railway of Montana.

E. D. Sewall

**J. W. Coneys,** division superintendent of the Pennsylvania, with headquarters at Indianapolis, Ind., died in that city on March 28.

**W. B. Jerome,** former general western passenger agent of the New York Central, with headquarters at Chicago, died in Los Angeles on March 30. Mr. Jerome was born on March 13, 1852, at Auburn, N. Y., and entered railway service in August, 1869, as a telegrapher on the Chicago & North Western and the Chicago, Milwaukee & St. Paul at Hanover Junction, Wis. He was appointed night operator on the Chicago, Milwaukee & St. Paul at Boscobel, Wis., in October, 1869 and was promoted to day operator and freight clerk at Janesville, Wis., on March 1, 1870. Two years later he entered the service of the Chicago, Burlington & Quincy at Hopkins, Mo., as operator and bill clerk but resigned in May, 1875, to become a clerk in the office of the general superintendent of the Michigan Central at Chicago. He was appointed ticket agent for the Michigan Central and the Chicago & West Michigan at Grand Rapids, Mich., on July 6, 1875, and served in this capacity until July 1, 1878, when he was appointed Michigan passenger agent, with headquarters at Chicago. He was appointed traveling passenger agent for the Atchison, Topeka & Santa Fe on February 1, 1880, and held this position for three years when he was appointed general western passenger agent of the New York Central and Hudson River, with headquarters at Chicago. On April 1, 1905, he was appointed general agent of the New York Central Lines, with headquarters at Chicago, and served in this capacity until January 3, 1906, when he was appointed special agent, with the same headquarters. Mr. Jerome was promoted to general western passenger agent, with headquarters at Chicago, on June 1, 1911, and served in this capacity until 1918. During the period of Federal control, he served as assistant to the passenger traffic manager of the lines west of Buffalo, with headquarters at Chicago. Mr. Jerome retired from active service shortly after the beginning of government operation, and has since made his home at Los Angeles, Cal.

W. B. Jerome

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"Edenborn Lines" is the name of a monthly magazine which has been started for the benefit of the employees of the Louisiana Railway & Navigation Company. The first number contains an account of the origin and history of this railroad, "the only railroad in the United States owned by a single individual," and a good variety of miscellany. A statement on the title page indicates that Grant Richardson, Shreveport, La., (which is the headquarters of the railroad) is the publisher and sole owner. The advertisers in the magazine sell hardware, lumber, ice-cream, jewelry, drugs, castings, oil, ginger ale and other things.